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Providence









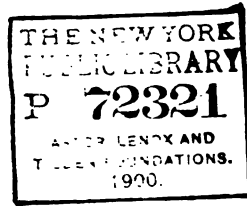
SEVENTEENTH  
QUARTERLY REPORT  
OF THE  
BOARD OF PUBLIC WORKS  
OF THE  
CITY OF PROVIDENCE, R. I.

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QUARTER ENDING MARCH 31, 1887.



PROVIDENCE:  
PROVIDENCE PRESS COMPANY, PRINTERS TO THE CITY.  
1887.



## ORGANIZATION OF THE BOARD OF PUBLIC WORKS.

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CHARLES E. CARPENTER, *President.*

CLINTON D. SELLEW, *Secretary.*

CHARLES H. HUNT.

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OFFICES, CITY HALL.

# REPORT.

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OFFICE OF THE BOARD OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., April 1, 1887. }

**TO THE HONORABLE THE CITY COUNCIL :**

In compliance with the requirements of Chapter 207 of the ordinances, approved February 14, 1883, the Board of Public Works respectfully presents its seventeenth quarterly report of the expenditures by the several departments under its direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending March 31, 1887.

## WATER WORKS.

January 14th, the offer of John W. Lyon to furnish taps and stops, was accepted. Amount, \$1,060.00.

January 14th, the offer of the Fales & Jenks Machine Co. to furnish ten fire hydrants and ten fire hydrant boxes, was accepted. Amount, \$1,400.00.

January 17th, the offer of the Fuller Iron Works to furnish six hundred service boxes without covers for the sum of two and seven-eighths cents per pound, was accepted.

January 28th, a portion of the "Mill site" at Pawtuxet was leased to John H. Manchester for one year from January 15, 1887, at an annual rent of fifty dollars, payable quarterly.

February 11th, the board adopted the following resolution :

**RESOLVED**, That the schedule of water rates be so amended as to make the charge for water used to run elevators, one and one-half cents, net, per one hundred gallons, from January 1, 1887; provided that wherever required by the board a meter shall be set at the expense of the owner of such elevator.

February 15th, Mr. Thomas F. Whiteley was appointed inspector of water pipes at the foundries of R. D. Wood & Co.

March 8th, the offer of R. B. Little & Co. to do the teaming required by the water and sewer departments for the season of 1887, was accepted.

March 28th, the resignation of Mr. Frederick Whitney as superintendent at Pettaconset, to take effect April 15, 1887, was accepted, and on the 31st of the same month Mr. Joseph C. Congdon was appointed as successor to Mr. Whitney.

March 30th, the Rhodes farm in Warwick was let to Frank O. Hellene for one year, from April 1, 1887, at a monthly rent of ten dollars.

The work of laying the following water pipes had not commenced March 31, 1887, viz. :

No. of resolution.    Date of approval.

- |      |                |  |
|------|----------------|--|
| 537. | Nov. 28, 1885, | <i>Arlington street, from Humboldt avenue northerly.</i> |
| 539. | “    “    “    | <i>Nolan street, from Bernon northwesterly.</i>          |
| 470. | Oct. 25, 1886, | <i>Bergen street, from Irving street northerly.</i>      |
| 471. | “    “    “    | <i>Blackstone street, from Prairie avenue easterly.</i>  |

No. of resolution. Date of approval.

472. Oct. 25, 1886, *Manchester street, from Hospital street westerly.*
474. " " " *Whipple, Oregon and Derry streets.*
475. " " " *Richmond street, from present end of pipe west of Plain street westerly.*
476. " " " *Sampson avenue, Burrington street and Jackson avenue, from present end of pipe to Barnaby street.*
508. Nov. 26, " *Ashton and Silver Spring streets.*
509. " " " *Cambridge street, from Broad street westerly.*
510. " " " *Evergreen street, from Camp street westerly.*
511. " " " *Greeley street, from Charles street westerly.*
512. " " " *Harriet street, from Sayles street northerly.*
514. " " " *Shepard street, from Carpenter to Broadway.*
576. Dec. 31, " *Somerset street to supply school estate.*
87. Mar. 2, " *Marietta street, from Charles street northerly.*
88. " " " *Seventh and Summit streets.*

The average daily consumption of water during the last quarter was 4,936,698 gallons.

During the quarter ending March 31, 1887, one hundred and thirty-nine water meters were set, of which number twenty-seven were to replace condemned meters. The use of seventeen meters was discontinued. The following meters were in use at the close of the quarter :



KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,921	566	139	46	7	.....	.....	3,679
Ball & Fitts, rotary.....	1	.....	22	27	2	7	3	62
Crown.....	2,718	449	115	42	13	3	3	3,343
Fales, Jenks & Sons.....	37	31	2	.....	.....	.....	.....	70
Worthington.....	73	1	.....	.....	1	.....	1	76
	5,750	1,047	278	115	23	10	7	7,230

Sixty-two plumbers' licenses were issued during the quarter, all of which expire December 31, 1887.

Three hundred and eighty-seven permits to do plumbing work were issued during the quarter.

Forty-seven applications for water were made during the quarter, making the total number, March 31, 1887, fourteen thousand and twenty-four.

The number of new service stops opened during the quarter was forty-nine.

The total number of service stops opened to March 31, 1887, inclusive, was thirteen thousand three hundred and sixty-one. The number in actual use, March 31, 1887, was twelve thousand five hundred and forty-seven.

The amount of bills approved on account of water works, from January 1 to March 31, 1887, inclusive, was

For construction and extension, . . . \$4,996 89

## Classified as follows :

Service pipe.....	\$1,613 57
Laying service pipe.....	1,421 05
Special castings.....	664 63
Laying water pipes.....	332 23
Horse and wagon account.....	236 64
Barn expenses.....	201 05
Fruit Hill reservoir, for labor.....	167 77
Tools.....	157 96
Wharf salaries.....	75 00
Fruit Hill reservoir, for road.....	55 00
Inspection of pipes.....	44 00
Fire hydrants, boxes and covers.....	15 00
Labor on and carting pipes.....	13 00
	<hr/>
	\$4,996 89

For maintenance, . . . . . \$13,661 70

## Classified as follows :

## PETTACONSET PUMPING STATION.

Coal and wood.....	\$1,623 97
Sundries.....	814 33
Engineers.....	600 00
Firemen.....	451 80
Superintendence.....	250 00
Lights.....	209 60
Oil, waste and packing.....	145 49
Labor on fuel.....	130 65
Corliss pumping engine and house.....	129 80
Barn expenses.....	26 51
Care of grounds.....	7 80
Real estate.....	5 05
	<hr/>
	\$4,395 00

## SOCKANOSSET RESERVOIR.

Watchman.....	\$135 00
Care of reservoir, grounds, etc.....	13 95
	<hr/>
	148 95
Amount carried forward.....	<hr/>
	\$5,543 95

Amount brought forward.....	\$5,543 96
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#### HOPE PUMPING STATION.

Engineers.....	\$800 00	
Firemen.....	360 00	
Lights.....	124 64	
Sundries.....	28 37	
Care of grounds.....	52 35	
Pumping engine No. 1, (Corliss).....	26 44	
Pumping engine No. 2, (Nagle).....	19 10	
	<hr/>	1,410 90

#### HOPE RESERVOIR.

Watchman.....	\$202 50	
	<hr/>	202 50

#### PIPE LINE AND SERVICE STOPS.

Repairs.....	\$1,025 64	
Superintendence—salaries.....	625 00	
	<hr/>	1,650 64

#### METER DEPARTMENT.

Water meters.....	\$2,034 61	
Setting and repairing meters.....	951 62	
	<hr/>	2,986 23

#### MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,527 41	
Analyses of water.....	94 50	
Sundries.....	48 05	
Horse hire.....	41 66	
Pipe yard, office expenses.....	41 11	
Public drinking fountains and troughs.....	40 25	
Horse and wagon account.....	38 60	
Telegraph lines.....	22 46	
Barn expenses.....	13 44	
	<hr/>	2,867 48
		<hr/>
		\$13,661 70

The amount of expenditures from January 1  
to March 31, 1887, inclusive, was . . . \$18,658 59

The total expenditures to March 31, 1887,  
inclusive, was . . . . . \$6,377,138 56

The *net* expenditure for construction and extension from  
January 1 to March 31, 1887, inclusive, was..... \$4,927 56

The *net* expenditure for construction and extension to  
March 31, 1887, inclusive, was..... 5,099,185 01

The *net* expenditure for maintenance from January 1 to  
March 31, 1887, inclusive, was..... 11,187 32

The *net* expenditure for maintenance to March 31, 1887, in-  
clusive, was..... 756,309 93

Bills deposited with the city treasurer for  
collection from January 1 to March 31, 1887,  
inclusive, amounted to . . . . . \$256,793 00

As follows :

Water.....	\$252,974 10
Water meters.....	2,457 95
Setting and repairing meters.....	1,002 02
Rent of real estate.....	110 52
Penalties.....	88 00
Grass and pasturage at Sockanosset.....	60 00
Permanently closing service stops.....	5 00
Labor and materials laying service pipes.....	60 43
Cast iron water pipe.....	20 02
Taps and stops.....	14 96
	<hr/>
	\$256,793 00

During the quarter coupons from bills col-  
lected have been returned by the city treas-  
urer, and receipted for, amounting to . . . \$235,761 06

As follows :

Water.....	\$233,139 35
Water meters.....	1,743 85
Setting and repairing meters.....	574 60
Rent of real estate.....	95 93
Penalties.....	78 00
Grass and pasturage at Sockanosset.....	60 00
Labor and materials laying service pipes.....	54 37
Taps and stops.....	14 96
	<hr/>
	\$235,761 06

## SEWERS.

Assessments for the cost of constructing sewers in the following streets have been completed and certified to the city treasurer, viz. :

John street, from East to Brook.....	\$2,010 79
Oriental, Oregon and Ashburton streets.....	5,389 78
Hay street, from Pine to Dyer.....	308 43
Friendship street, from 277 to Prince street.....	623 07
Pleasant and Camp streets, from Ivy to Doyle avenue.....	2,990 47
Brook street, from Bowen to Meeting.....	1,410 40
Benefit street, from Williams to Power.....	809 91
Benefit street, from near Church to Meeting.....	2,879 98
Benefit and Thomas streets, from Meeting to North Main.....	1,293 60
Benefit street, from near Church to Star.....	751 95
Elbow street, from Tippecanoe to Ship.....	212 65
Lippitt street, from near Dwight to Camp.....	1,717 15
Total.....	\$20,398 18

During the quarter ending March 31, 1887, fifty-two permits were issued drain-layers ; twenty-three for new work, and twenty-nine for extension and repair of drains.

Twenty drain-layers' licenses were issued during the quarter, all of which expire December 31, 1887.

March 2d, contracts for the construction of sewers, which have since been signed, were awarded as follows, viz :

[The amounts given below are what it is estimated will be paid the contractors for labor, and does not include cost of inspection and materials.]

## TO KEOGH &amp; SHAW.

No. of resolution. Date of approval.

375.	Sept. 8, 1886,	<i>Friendship street, from Somerset to Pearl.</i>	\$847 45
432.	Oct. 2, "	<i>Comstock avenue, from Broad street to Prairie avenue,</i>	2,232 25

443.	Oct. 2, 1886,	<i>North Davis street and Chalkstone avenue, from a point 340 feet southerly from Chalkstone avenue to present sewer,</i>	2,036 60
493.	Nov. 12, "	<i>Governor street, from Angell to Manning,</i>	765 30
494.	" " "	<i>Jewett street, from Holden street 220 feet westerly,</i>	424 60
515.	" 26, "	<i>Taber avenue, from Irving to Humboldt,</i>	1,012 35
542.	Dec. 7, "	<i>Benevolent street, from Thayer to Brook,</i>	490 90

## TO THOMAS NEWMAN.

No. of resolution. Date of approval.

373.	Sept. 8, 1886,	<i>Broad street, from Somerset to Pearl,</i>	\$712 30
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March 31st, work was in progress upon the following sewer, viz. :

No. of resolution. Date of approval.

493.	Nov. 12, 1886,	<i>Governor street, from Angell to Manning.</i>
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Work upon the following sewers, completing the list ordered by the city council, had not commenced March 31, 1887, viz. :

No. of resolution. Date of approval.

397.	Oct. 7, 1882,	<i>Orms street, from Carroll to present end of sewer in Orms.</i>
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373. Sept. 8, 1886, *Broad street, from Somerset to Pearl.*  
 374. " " " *Charles and Ashburton streets, from West River bridge to present sewer in Ashburton street.*  
 375. " " " *Friendship street, from Somerset to Pearl.*  
 432. Oct. 2, " *Comstock avenue, from Broad street to Prairie avenue.*  
 443. " " " *North Davis street and Chalkstone avenue, from a point 340 feet south-erly from Chalkstone avenue to present sewer.*  
 494. Nov. 12, " *Jewett street, from Holden street 220 feet westerly.*  
 515. " 26, " *Taber avenue, from Irving to Humboldt.*  
 542. Dec. 7, " *Benevolent street, from Thayer to Brook.*  
 104. Mar. 10, " *Friendship street, from Somerset to Dudley.*

Bills approved on account of sewers from January 1 to March 31, 1887, inclusive, amounted to

For construction, . . . . . \$1,928 38

Charged as follows :

Materials.....	\$714 50
Rent of wharf and pipe yard.....	625 00
Clerk's salary.....	150 00
Tools.....	20 08
Sewer in Hay street, from Dyer to Pine.....	15 50
Sewer in Lippitt street, from Dwight to Camp.....	7 10
Additional catch basins.....	9 20
Contract reservation on completed sewers.....	387 00
	<hr/>
	\$1,928 38

For maintenance, . . . . . \$6,368 98

## Charged as follows :

Cleaning basins and sewers.....	\$4,222 82
Repairing basins and sewers.....	131 90
Cleaning and repairing old drains.....	208 41
Tools.....	552 18
Barn expenses.....	471 11
Salary—superintendent.....	350 00
Inspection of connections.....	250 00
Horses, wagons, carts, harnesses, etc.....	155 23
Sundries.....	18 44
Telephone lines.....	8 89
	<hr/>
	\$6,368 98

The net expenditure for construction of sewers to March 31, 1887, inclusive, was.....	\$1,811,625 28
The net expenditure for maintenance of sewers to March 31, 1887, inclusive, was.....	230,657.87

Bills deposited with the city treasurer for collection from January 1 to March 31, 1887, inclusive, amounted to . . . . . \$120 96

## As follows :

Cleaning private drains, etc.....	\$99 13
Filling gas holder.....	13 23
Use of pump.....	5 00
Pumping out cellars.....	3 60
	<hr/>
	\$120 96

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$74 42

## As follows :

Cleaning private drains, etc.....	\$42 75
Filling gas holder.....	13 23
Pumping out cellar.....	2 00
Private drains laid in streets.....	16 44
	<hr/>
	\$74 42



## HIGHWAYS.

Statements have been prepared of the cost of curbing set, ascertained by the board and certified to the Board of Aldermen for approval, as follows, viz. :

Blackstone street.....	\$198 07
Blackstone street.....	616 50
Miller street.....	140 30
Burnett street.....	489 11
Reservoir avenue.....	482 70
Wickenden street.....	100 40
Doyle avenue.....	724 80
Ashburton street.....	67 00
George street.....	195 70
George street.....	744 80
Daboll street.....	1,015 90
Stimson avenue.....	730 90
Woodland street.....	480 00
Wellington street.....	370 80
Grove street.....	672 70
Pleasant street.....	543 50
Grant street.....	908 00
<b>Total.....</b>	<b>\$8,922 00</b>

Four permits to open streets were issued during the quarter.

March 5th, the proposal of Joseph H. West, of Franklin Maine, to furnish

23,000 lineal feet of straight curbing,  
 300 lineal feet of circular curbing, 10-feet radius,  
 300 lineal feet of circular curbing, 3-feet radius,  
 25 curb corners, 3-foot radius,  
 1,300 lineal feet of 14-inch cross-walk stone,

was accepted and a contract subsequently executed. Amount . . . . . \$15,267 54

March 7th, the proposal of E. D. Smith to concrete side walks and gutters was accepted, and a contract has since been executed with them for doing said work.

The following work was, March 31, 1887, in progress, viz. :

### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

**Date of order.**

- July 19, 1883, *Chalkstone avenue, from Charles street to Black:*—curbing set and gutters paved, but roadway not built.
- Dec. 31, “ *Dexter street, from Cranston to Cromwell.*
- June 26, 1884, *Diman place, from Angell street to Asylum wall.*
- Oct. 16, “ *Daboll street, from Greenwich to Updike:*—finished except concreting gutters.
- “ “ “ *Grove street, from Almy to Tobey:*—finished except concreting gutters.
- March 19, 1885, *Blackstone street, south side, from Plain to Eddy:*—finished except rolling roadway.
- April 16, 1885, *Burnside street, from Public to Potter’s avenue:*—finished except building portion of roadway.
- “ “ “ *Peace street, from Broad to Prairie avenue:*—portion of the curbing set.
- May 21, “ *Chalkstone avenue, from Douglas to Smith street:*—finished except building roadway.
- June 4, “ *Beacon street, from Lockwood to Pearl:*—finished except roadway.
- June 18, “ *Blackstone street, north side, from Eddy to Culver:*—finished except rolling roadway.
- July 16, “ *Grant street, from Knight to Carpenter.*
- Sept. 17, “ *Pleasant street, from North Main to Camp:*—portion about 400 feet east of North Main street completed.

**TO BE BROUGHT TO GRADE.**

Date of order.

June 18, 1885, *Austin street, from Potter's avenue to Public street*:—the greater portion of this street has been worked to grade.

June 18, “ *Hamilton street, from Potter's to Adelaide avenue*:—the greater portion of this street has been brought to grade.

No. of resolution. Date of approval.

441. Oct. 2, 1886, *Bellevue avenue, from a point 950 feet easterly of Cranston street to Long Pond*:—the grading is nearly completed.

Date of order.

Nov. 18, 1886, *Printery street, near Whelden street*:—a portion of this street has been brought to grade.

**TO BE BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.**

Date of order.

July 1, 1886, *Ridge street, from west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge*:—the grading of Ridge street is completed.

**GUTTERS TO BE CONCRETED.**

Date of order.

Oct. 14, 1886, *Benefit street, between Transit and North Main*:—about one-half of this work is completed.

## TO BE REPAIRED.

No. of resolution. Date of approval.

297. July 1, 1886, *Benefit street, from Halsey to Transit*:  
— finished except cross-walks near  
North Main street.

## TO TAKE POSSESSION OF.

Date of order.

- April 16, 1885, *Earle's lane, now Pleasant street, from North Main street to Camp*:— a portion near North Main street has been brought to grade.
- April 16, “ *Gordon avenue, from Public to Colfax street*:  
— finished except removal of fence at Gallup street.

## TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR PUBLIC TRAVEL.

Date of order.

- Oct. 14, 1886, *Transit street, from Ives to Gano*:— some work has been done under this order.

## TO BE FILLED.

- July 17, 1884, *Pond opposite works of the Nicholson File Company*:— a small portion of the pond has been filled.

The following work ordered by the board of aldermen and city council had not commenced March 31, 1887, viz. :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Aug. 3, 1882, *Capron street, in front of Julian street school-house estate*.

- Oct. 19, 1882, *Potter's avenue, from Broad street to Greenwich.*
- Nov. 16, " *Eddy street, from Thurber's avenue to Pavilion avenue.*
- June 26, 1884, *Richmond street, from Ship to Point.*
- May 21, 1885, *Adelaide avenue, north side, from Elmwood avenue to Melrose street.*
- " " " *Cushing street, from Prospect to Brook.*
- June 4, " *Creighton street, from Prospect to Brown.*
- " 18, " *Pekin street, from Chalkstone avenue to Bailey street.*
- " " " *Public street, from Broad to Greenwich.*
- July 16, " *Brighton street, from Knight to Vinton.*
- Sept. 17, " *Vineyard street, from Hawthorne to Carter.*
- Oct. 15, 1885, *Smith street, from Ruggles to Oakland avenue.*
- Nov. 19, " *Briggs street, from Ocean to Plain.*
- " " " *Linden street, from West Clifford to Providence.*
- " " " *Whitmarsh street, from Broad to Updike.*
- Dec. 17, " *Hedley street, from Palmer to Shove.*
- " " " *Ives street, from Pitman to Waterman.*
- " " " *Laura street, from Melrose to Hamilton.*
- " " " *Tockwotton street, from Benefit to South Main.*
- Jan. 27, 1886, *Governor street, from Wickenden to Tockwotton.*
- Feb. 18, " *Public street, from Broad to Prairie avenue.*
- April 15, " *Wilson street, from Harrison to Dexter.*
- May 20, " *Adelaide avenue, adjoining estate of William Whitehead.*
- June 17, " *Austin street, from Public to Potter's avenue.*
- " " " *Chalkstone avenue, from Academy to River avenue.*

- June 17, 1886, *Cypress street, from Camp to East avenue.*  
 “ “ “ *Hamilton street, from Potter's to Adelaide avenue.*  
 “ “ “ *Sayles street, from Eddy to Plain.*  
 “ “ “ *Violet street, from Orms to Chalkstone avenue.*  
 Aug. 5, “ *Princeton avenue, from Broad to Greenwich.*  
 Sept. 16, “ *Cabot street, from Angell to Meeting.*  
 “ “ “ *Linden street, from Pine to Friendship.*  
 Oct. 21, “ *Sayles street, from Ocean to Miller.*  
 Nov. 18, “ *Ridge street, from west line of Tobey to Atwell's avenue.*  
 Jan. 20, 1887, *Bernon street, from Douglas avenue to Candace street.*  
 “ “ “ *Brattle street, from Dahlia to Potter's avenue.*  
 “ “ “ *Somerset street, from Prairie avenue to Providence street.*

## OBSTRUCTIONS TO BE REMOVED.

Date of order.

- Sept. 10, 1885, *Governor street, between Wickenden and Tockwotton.*

## SIDEWALKS TO BE CONCRETED.

No. of resolution. Date of approval.

525. Dec. 1, 1886, *Harrison street, from Cranston to Sprague.*  
 541. Dec. 7, “ *Kenyon street, northerly side, from America to Dean.*

### TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

517. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 Mar. 7, 1887, *Jackson avenue, from Potter's avenue*  
*to Beckwith street.*

### TO TAKE POSSESSION OF.

Date of order.

- Sept. 16, 1886, *West Exchange street, from Cove to Atwell's*  
*avenue.*

### SIDEWALKS TO BE CONSTRUCTED.

No. of resolution. Date of approval.

106. Mar. 14, 1887, *Around Burnside Statue on Exchange*  
*street.*

### DRAIN-PIPE TO BE LAID AND CATCH-BASINS BUILT.

107. Mar. 14, 1887, *Colwell street, from Prairie avenue to*  
*water course near Levina street.*

### TO PAVE WITH COBBLE STONES WITH TOP ASPHALT DRESSING.

119. Mar. 21, 1887, *Clemence street, from Westminster to*  
*Broad.*

Bills approved on account of highways from  
 January 1 to March 31, 1887, inclusive, amounted  
 to . . . . . \$33,696 95

## Classified as follows :

Screening gravel.....	\$7,183 42	
Crushed stone, material and labor.....	5,071 80	
Removing ice and snow.....	3,194 01	
Barn expenses.....	2,036 36	
Repairs on unpaved streets.....	1,879 02	
Cleaning streets.....	1,832 46	
Labor on materials .....	1,813 26	
Tools, implements, etc.....	1,075 13	
Blacksmith and wheelwright shop.....	1,034 31	
Horses, wagons, carts, harnesses, etc.....	1,006 55	
Salaries—superintendent and clerks.....	924 50	
Stone, paving and crosswalk.....	885 71	
Repairs on stone crushers.....	639 81	
Sundries.....	226 71	
Watchman at city yard.....	189 00	
Harness shop, materials and labor.....	135 61	
Steam rollers, repairs and supplies.....	111 52	
Horse car tickets.....	54 25	
Office expenses, city yard.....	28 52	
Telephone lines.....	30 67	
Fencing streets, materials and labor.....	8 17	
		<b>\$29,359 79</b>

## NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.

## SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Adelaide avenue</i> , adjoining estate of William Whitehead.....	\$12 00
<i>Adelaide avenue</i> , north side, from Elmwood avenue to Melrose street.....	63 76
<i>Blackstone street</i> , south side, from Plain to Eddy...	480 94
<i>Blackstone street</i> , north side, from Eddy to Culver..	97 75
<i>Burnside street</i> , from Public to Potter's avenue....	66 73
<i>Cushing street</i> , from Prospect to Brook.....	1,718 38
<i>Peace street</i> , from Broad to Prairie avenue.....	38 25

## BROUGHT TO GRADE.

<i>Austin and Hamilton streets</i> , from Public street to Adelaide avenue.....	405 00	
<i>Bellevue avenue</i> to Long pond.....	206 00	
<i>Ridge street</i> , from Tobey to Atwell's avenue.....	1,070 47	
<i>Whelden street</i> , from Printery to Nichols.....	16 40	
Amounts carried forward.....	<b>\$4,175 68</b>	<b>\$29,359 79</b>



Amounts brought forward..... \$4,175 68      \$29,359 79

#### REPAIRED.

*Pine and Hay streets*, corner of..... 81 87

#### TAKE POSSESSION OF.

*West Exchange street*, from Cove to Atwell's avenue..... 69 61

#### RE-BUILD.

<i>Benefit street</i> , from Short alley to Transit.....	10 00	
	<u>          </u>	4,337 16
		<u>\$33,696 95</u>

Bills deposited with the city treasurer for collection from January 1 to March 31, 1887, inclusive, amounted to, . . . . . \$871 84

#### As follows :

Street sweepings.....	\$753 49
Manure from barn.....	76 50
Labor and materials.....	38 85
Blocks.....	3 00
	<u>\$871 84</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$3,251 83

#### As follows :

Labor and materials.....	\$2,587 84
Street sweepings.....	658 49
Plow points.....	5 50
	<u>\$3,251 83</u>

of expenditures on account of side-  
bing from January 1 to March 31,  
e, was . . . . \$1,996 63

and curbing bills deposited with the  
r for collection from January 1 to  
87, inclusive, amounting to . \$8,619 45

quarter coupons from sidewalks and  
collected have been returned by the  
r, and receipted for, amounting  
. . . . . \$2,577 40

CHAS. E. CARPENTER,  
CLINTON D. SELLEW,  
CHAS. H. HUNT,

*Board of Public Works.*



1887.]

CITY DOCUMENT.

[No

EIGHTEENTH  
QUARTERLY REPORT

OF THE

BOARD OF PUBLIC WORKS

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1887.



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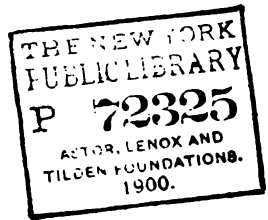
EIGHTEENTH  
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## ORGANIZATION OF THE BOARD OF PUBLIC WORKS.

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CHARLES E. CARPENTER, *President.*

CLINTON D. SELLEW, *Secretary.*

CHARLES H. HUNT.

---

OFFICES, CITY HALL.

# REPORT.

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OFFICE OF THE BOARD OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., April 2, 1888. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV of the ordinances approved February 14, 1883, the Board of Public Works respectfully presents its twenty-first quarterly report of the expenditures by the several departments under its direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending March 31, 1888.

## WATER WORKS.

January 21st, the board accepted the resignation of Andrew B. Purdy, superintendent of distribution, to take effect January 31, and recorded its appreciation of his pains-taking and valuable labors rendered during a continuous service of more than seventeen years. Mr. Purdy has removed from Providence to engage in business in Brooklyn, N. Y.

Richard M. Wood has been promoted to the position of superintendent of distribution.

March 12th, the offer of the Providence Steam and Gas Pipe Co. to furnish, delivered at pipe yard, one thousand lock covers for service boxes for the sum of two hundred and ninety dollars was accepted.

March 13, the offer of the Fales & Jenks Machine Co. to furnish, delivered in this city, twenty five hydrants and



twenty fire hydrant boxes for the sum of twenty-eight hundred dollars, was accepted.

March 14, the offers of Thomas Phillips & Co. and L. H. Tillinghast & Co. to each furnish one-half of the following quantities of lead and lead pipes were accepted :

6 tons  $\frac{3}{4}$ -inch lead pipe, 4 pounds per foot,  
 2 tons  $\frac{3}{4}$ -inch lead pipe,  $4\frac{1}{2}$  pounds per foot,  
 1 ton  $1\frac{1}{4}$ -inch lead pipe, 9 pounds per foot,  
 $\frac{1}{2}$  ton  $1\frac{1}{4}$ -inch lead pipe, 12 pounds per foot,  
 10 tons pure pig lead.

Amount of the offers, . . . . \$2,302 00

March 16, the offer of John W. Lyon to furnish

500  $\frac{1}{2}$ -inch taps,  
 15 1-inch taps,

10 1-inch plugs,

500  $\frac{1}{2}$ -inch stops,  
 30 1-inch stops,

was accepted. Amount, . . . . \$930 45

March 16, the offer of the Whittier Machine Co. to furnish, delivered on cars in this city,

10 4-inch water gates,  
 60 6-inch water gates,

was accepted. Amount, . . . . \$1,335 00

March 20, the proposal of the Fuller Iron Works to make special castings and service boxes was accepted.

March 27, the proposal of the Gloucester Iron Works to furnish, delivered on wharf in this city,

300 tons of cast-iron water pipes, twelve inches in diameter,  
 600 tons cast-iron water pipes, six inches in diameter,

was accepted, and a contract subsequently executed.

Amount, . . . . \$26,598 00

Three fire hydrants were set during the last quarter, one in each of the following locations :

Hewes street, opposite Stampers ;

Wild street, east side, about 400 feet north of Branch avenue;

Ashburton street, westerly side, about 200 feet northerly from Webster.

The total number of fire hydrants is now twelve hundred and eighty-one: twelve hundred and seventy flush and eleven post hydrants.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084	feet.
30-inch.....	59,637	feet.
24-inch.....	37,685.98	feet.
20-inch.....	6,854.8	feet.
16-inch.....	31,574	feet.
12-inch.....	57,699.49	feet.
10-inch.....	14,758.1	feet.
8-inch.....	150,130.37	feet.
6-inch.....	703,994.25	feet.
Total.....	1,072,417.99	feet,

or 203.109+ miles.

The work of laying the following water pipes had not commenced March 31, 1888, viz. :

No. resolution. Date of approval.

537.	Nov. 28, 1885,	<i>Arlington street, from Humboldt avenue northerly.</i>
539.	“ “	<i>Nolan street, from Bernon north-westerly.</i>
472.	Oct. 25, 1886,	<i>Manchester street, from Hospital street westerly.</i>
270.	June 20, 1887,	<i>Eagle street, from end of pipe about 50 feet northerly.</i>
343.	July 18, “	<i>North street, from East avenue to Lorimer.</i>

482. Oct. 5, 1887, *Fenner avenue and Green street, Cranston, from Reservoir avenue.*
555. Nov. 5, " *King street, Johnston, from Manton avenue southerly about 445 feet.*
556. " " *Pope street, from Manton avenue northerly about 250 feet.*

The average daily consumption of water during the last quarter, was 5,534,161 gallons.

During the quarter ending March 31, 1888, eighty-eight water meters were set, of which number eight were to replace other meters. The use of ten meters was discontinued. The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,967	582	141	46	6	.....	.....	3,742
Ball & Fitts, rotary.....	.....	.....	22	26	3	7	3	61
Crown.....	3,113	493	126	48	15	3	3	3,901
Fales, Jenks & Sons.....	15	10	2	.....	.....	.....	.....	27
Worthington.....	59	1	.....	.....	1	.....	1	62
	6,154	1,066	291	120	25	10	7	7,663

Sixty-six plumbers' licenses were issued during the quarter, all of which expire December 31, 1888.

Five hundred and thirty-nine permits to do plumbing work were issued during the quarter.

Twenty-one applications for water were made during the quarter, making the total number, March 31, 1888, fourteen thousand five hundred and ninety-six.

The number of new service stops opened during the quarter was thirty-one.

The total number of service stops opened to March 31, 1888, inclusive, was thirteen thousand nine hundred and fifty-five. The number in actual use March 31, 1888, was thirteen thousand and ninety-seven.

The amount of bills approved on account of water works, from January 1 to March 31, 1888, inclusive, was

For construction and extension, . . . \$13,474 68

Classified as follows :

Fruit Hill reservoir, main line to.....	\$5,213 06
Fruit Hill reservoir, for construction.....	1,113 99
Fruit Hill reservoir, for road.....	223 17
Fruit Hill reservoir, for sundries.....	174 66
Fruit Hill reservoir, for telephone line.....	5 50
Water pipes in Pawtuxet, south of bridge.....	1,500 00
Service pipe.....	1,549 22
Laying water pipes.....	1,438 25
Fire hydrants, boxes and covers.....	738 25
Stop valves.....	607 60
Laying service pipes.....	308 27
Barn expenses.....	307 98
Wharf salaries.....	233 33
Tools.....	41 25
Horse and wagon account.....	15 65
Carting pipes.....	4 50
	<u>\$13,474 68</u>

For maintenance, . . . \$14,880 42

Classified as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$1,789 72
Engineers.....	625 00
Sundries.....	622 55
Amount carried forward.....	<u>\$3,037 27</u>

Amount brought forward.....	\$3,037 27	
Firemen.....	463 70	
Lights.....	260 40	
Superintendence.....	250 00	
Labor on fuel.....	133 95	
Corliss pumping engine and house.....	121 18	
Engine house (Cornish).....	85 47	
Oil, waste and packing.....	60 98	
Real estate.....	42 45	
Barn expenses.....	41 33	
		<u>\$4,496 73</u>

#### SOCKANOSSET RESERVOIR.

Watchman.....	\$136 50	
Sundries.....	4 36	
		<u>140 86</u>

#### HOPE PUMPING STATION.

Engineers.....	\$800 00	
Firemen.....	360 00	
Lights.....	140 40	
Care of grounds.....	125 50	
Sundries.....	31 58	
Pumping engine No. 1, (Corliss).....	14 40	
Pumping engine No. 2, (Nagle).....	40	
		<u>1,472 28</u>

#### HOPE RESERVOIR.

Watchman.....	\$204 75	
Sundries.....	1 33	
		<u>206 08</u>

#### PIPE LINE AND SERVICE STOPS.

Superintendence—salaries.....	\$608 33	
Repairs.....	1,021 78	
		<u>1,630 11</u>

#### METER DEPARTMENT.

Water meters.....	\$1,990 20	
Setting and repairing meters.....	1,046 83	
		<u>3,037 03</u>
Amount carried forward.....		<u>\$10,983 09</u>

Amount brought forward..... \$10,983 09

MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,195 10	
Thawing service pipes, etc.....	917 68	
Supplying water where service pipes are frozen.....	430 27	
Barn expenses.....	131 60	
Analyses of water.....	95 85	
Telephone lines.....	34 41	
Horse and wagon account.....	26 92	
Pipe yard, office expenses.....	25 45	
Public drinking fountains and troughs.....	23 50	
Sundries.....	16 55	
		3,897 33
		<u>\$14,880 42</u>

The amount of expenditures, from January 1 to March 31, 1888, inclusive, was . . . \$28,355 10

The total expenditures to March 31, 1888, inclusive, was . . . \$6,592,419 94

The *net* expenditure for construction and extension from January 1 to March 31, 1888, inclusive, was..... \$13,438 80

The *net* expenditure for construction and extension to March 31, 1888, inclusive, was..... 5,233,785 51

The *net* expenditure for maintenance from January 1 to March 31, 1888, inclusive, was..... 12,326 14

The *net* expenditure for maintenance to March 31, 1888, inclusive, was..... 818,942 92

Bills deposited with the city treasurer for collection from January 1 to March 31, 1888, inclusive, amounted to . . . \$264,465 17

As follows :

Water.....	\$260,574 63
Water meters.....	2,461 05
Setting and repairing meters.....	833 47
Rent of real estate.....	100 43
Penalties.....	84 00
Permanently closing service stops.....	20 00
Wood from Fruit Hill reservoir land.....	92 50
Labor and materials, laying service pipes.....	82 34
Manure from barn.....	10 00
Special castings.....	6 75
	<u>\$264,465 17</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$242,248 08

As follows :

Water.....	\$239,591 92
Water meters.....	1,850 85
Setting and repairing meters.....	515 00
Rent of real estate.....	168 43
Penalties.....	66 00
Permanently closing service stops.....	20 00
Labor and materials, laying service pipes.....	19 13
Manure from barn.....	10 00
Special castings.....	6 75
	<hr/>
	\$242,248 08

### SEWERS.

During the quarter ending March 31, 1888, twenty-seven permits were issued to drain layers: four for new work, and twenty-three for extension and repair of drains.

Seventeen drain-layers' licenses were issued during the quarter, all of which expire December 31, 1888.

Work upon the following sewers, completing the list ordered by the City Council, had not commenced March 31, 1888, viz. :

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Coe street to and across Atwell's avenue to Ridge street, and in said Ridge street from Atwell's avenue to Tobey street.*
503. Nov. 5, " *West Park street, from Holden 250 feet southerly.*
602. Dec. 16, " *Bates street, from Mallett to Lippitt.*
624. " 31, " *South Main street, from Cent to a point about 600 feet northerly.*

625. Dec. 31, 1887, *Washington street, from Dean to Battey.*
75. Feb. 21, 1888, *Royal street, from Knowles to North Main.*
90. March 5, “ *Carrington avenue, from East avenue to Camp street.*

## CONNECTIONS TO BE LAID.

528. Oct. 26, 1887, *South Main street, from College to Crawford.*

Bills approved on account of sewers from January 1 to March 31, 1888, inclusive, amounted to

For construction, . . . . . \$2,520 48

## Charged as follows :

Materials.....	\$1,150 48
Rent of wharf and yard.....	625 00
Contract reservations on completed sewers.....	745 00
	<hr/>
	\$2,520 48

For maintenance, . . . . . \$6,193 94

## Charged as follows :

Cleaning basins and sewers.....	\$2,827 30
Repairing basins and sewers.....	622 03
Cleaning and repairing old drains.....	124 55
Tools.....	693 64
Barn expenses.....	664 15
Horses, wagons, carts, harnesses, etc.....	416 75
Salary—superintendent.....	350 00
Inspection of connections.....	250 00
Filling cisterns, etc.....	67 70
Cleaning private connections.....	63 56
Sundries.....	56 58
Expenses attending fires.....	44 93
Telephone lines.....	12 75
	<hr/>
	\$6,193 94



The net expenditure for construction of sewers to March 31, 1888, inclusive, was.....	\$1,858,988 02
The net expenditure for maintenance of sewers to March 31, 1888, inclusive, was.....	255,315 32

Bills deposited with the city treasurer for collection from January 1 to March 31, 1888, inclusive, amounted to . . . . . \$200 46

As follows :

Repairing sewer in Eddy street, damaged by steam from Narragansett hotel.....	\$99 53
Cleaning private drains.....	79 05
Pumping out cellars, etc.....	20 88
Use of pump.....	1 00
	<u>\$200 46</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$53 60

As follows :

Cleaning private drains.....	\$42 50
Pumping out cellars.....	10 10
Use of pump.....	1 00
	<u>\$ 53 60</u>

## HIGHWAYS.

Three permits to open streets were issued during the quarter.

February 9th, the proposal of John Garvey to furnish

15,000 lineal feet, straight curbing,  
1,000 lineal feet, circular curbing, 8-foot radius,  
50 curb-corners, 3-foot radius,  
1,500 lineal feet of 14-inch cross-walk stone,

was accepted, and a contract subsequently executed.

Amount, . . . . . \$10,225 00

March 22, the proposal of Ezra D. Smith to concrete sidewalks and gutters was accepted, and a contract has since been executed with him for doing the work.

Statements have been prepared of the cost of curbing set, ascertained by the board and certified to the board of aldermen for approval, as follows, viz. :

Sayles street, from Eddy to Plain.....	\$521 53
Crelighton street, from Prospect to Brown.....	379 57
Cushing street, from Prospect to Brook.....	1,819 46
Burnside street, from Public to Broad.....	558 77
Peace street, from Broad to Prairie avenue.....	1,462 26
Adelaide avenue, from Elmwood avenue to Melrose street.....	509 29
Adelaide avenue, s. s. adjoining estate of Wm. Whitehead.....	114 94
Sayles street, from Ocean to Miner.....	405 06
Princeton avenue, from Broad street to Greenwich.....	1,823 71
Vineyard street, from Hawthorne to Carter.....	486 24
Linden street, from West Clifford to Providence.....	230 92
Udike street, from Moore to Daboll.....	171 28
Pleasant street, from North Main to Camp.....	1,092 35
Capron street, in front of school estate.....	81 45
Brattle street, from Dahlla to Potter's avenue.....	790 70
Wilson street, from Harrison to Dexter.....	317 00
East Beacon street, from Marlboro to Beacon.....	442 79
Whitmarsh street, from Broad to Udike.....	798 85
Marlboro street, from East Beacon to Lockwood.....	132 50
Briggs street, from Ocean to Plain.....	724 40
Public street, from Broad to Prairie avenue.....	1,568 97
Kossuth street, from Putnam to Hyatt.....	1,101 45
Somerset street, from Prairie avenue to Providence street.....	708 97
Pekin street, from Chalkstone avenue to Bailey street.....	1,320 95
Bernon street, from Douglas avenue to Candace street.....	1,120 62
Laura street, from Melrose to Hamilton.....	504 46
Tockwotton street, from South Main to Benefit.....	376 95
Linden street, from Pine to Friendship.....	139 85
Brighton street, from Knight to Vinton.....	149 75
Cabot street, from Angell to Meeting.....	389 74
Hope street, w. s. from George to Manning.....	150 49
Charles street, from R. R. crossing to West River.....	1,833 11
Jewett street, from Holden to Senter.....	951 99
Gesler street, from Knight to Vinton.....	517 42
Total.....	\$23,897 79

Work ordered suspended until further orders, February 16, 1888 :

#### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 26, 1884. *Richmond street, from Ship to Point.*

The following work was in progress March 31, 1888,  
viz. :

**SIDEWALKS TO BE CURBED AND GUTTERS PAVED.**

**Date of order.**

- Oct. 19, 1882, *Potter's avenue, from Broad street to Greenwich*:—a portion of the curbing set and a part of the roadway graded.
- July 19, 1883, *Chalkstone avenue, from Charles street to Black*:—curbing set and gutters paved, but roadway not built.
- May 21, 1885, *Chalkstone avenue, from Douglas to Smith street*:—finished except building roadway.
- Sept. 17, “ *Vineyard street, from Hawthorne to Carter*:—finished except concreting gutters.
- Aug. 5, 1886, *Princeton avenue, from Broad to Greenwich*:—portion between Broad and Updike completed, and portion between Updike and Greenwich nearly done.
- Jan. 20, 1887, *Bernon street, from Douglas avenue to Candace street*:—finished except concreting gutters.
- “ “ “ *Brattle street, from Dahlia to Potter's avenue*:—finished except concreting gutters.
- April 21, “ *Brown street, from Olive to Olney*:—curbing set from Olive to Keene street, and a portion of the roadway built.
- “ “ “ *Jewett street, from Holden to Senter*:—curbstone set and roadway nearly completed.
- “ “ “ *Lockwood street, from Broad to Pine*:—curbstone set and roadway built except rolling.
- May 19, “ *Updike street, from Moore to Daboll*:—finished except concreting gutters.

## TO BE BROUGHT TO GRADE.

order.

- 18, 1885, *Austin street, from Potter's avenue to Public street*:—the greater portion of this street has been worked to grade.
- “ “ *Hamilton street, from Potter's to Adelaide avenue*:—the greater portion of this street has been brought to grade.
- h 7, 1887, *Jackson avenue, from Potter's avenue to Beckwith street*:—the portion between Burlington and Beckwith streets completed and work is being done on the portion between Potter's avenue and the railroad bridge.
- 8, “ *Harold street, from Valley to Chalkstone avenue*:—a small portion only of this work has been done.

E BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.

- 1, 1886, *Ridge street, from the west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge*:—the grading of Ridge street is completed.

## TO TAKE POSSESSION OF.

- 16, 1885, *Gordon avenue, from Public to Colfax street*:—finished except removal of fence at Gallop street.
- 16, 1886, *West Exchange street, from Cove to Atwell's avenue*:—some filling has been done between Atwell's avenue and the railroad company's engine house.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Date of approval.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE FILLED.

Date of order.

July 17, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

TO CONFER WITH THE OWNERS AND ARRANGE FOR RAISING  
HOUSES AND GRADING LOTS.

399. Sept. 7, 1887, *West Exchange street, south side*:—written consent has been obtained to allow the city to do the work, and several of the houses have been raised and filled around with earth.

TO BE REPAIRED.

Sept. 29, 1887, *Douglas avenue, from Eaton street to the city line*:—a large part of the avenue has been repaired and work is now doing upon the remainder.

TO BE PAVED WITH GRANITE BLOCKS.

503. Oct. 15, 1887, *Friendship street, from Pearl to Broad*—paved from Pearl to near Somerset street.

The following work ordered by the board of aldermen and city council had not commenced March 31, 1888:

# SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Nov. 16, 1882, *Eddy street, from Thurber's avenue to Pavilion avenue.*
- June 18, 1885, *Public street, from Broad to Greenwich.*
- Oct. 15, " *Smith street, from Ruggles to Oakland avenue.*
- Dec. 17, " *Hedley street, from Palmer to Shove.*
- " " " *Ives street, from Pitman to Waterman.*
- June 17, 1886, *Austin street, from Public to Potter's avenue.*
- " " " *Chalkstone avenue, from Academy to River avenue.*
- " " " *Cypress street, from Camp to East avenue.*
- " " " *Hamilton street, from Potter's to Adelaide avenue.*
- " " " *Violet street, from Orms to Chalkstone avenue.*
- Nov. 18, " *Ridge street, from west line of Tobey to Atwell's avenue.*
- May 19, 1887, *Lilac street, from Cranston to Brattle.*
- Sept. 15, " *Amherst street, from Putnam to Manton avenue.*
- " " " *Prairie avenue, from Thurber's avenue to Broad street.*
- " " " *Sayles street, from Miner to Prairie avenue.*
- Oct. 20, " *Angell street, from Butler to Grand avenue.*
- " " " *Capron street, from Julian to Chaffee.*
- " " " *Hendrick street, from Academy to Mount Pleasant avenue.*
- " " " *Linden street, from Friendship to West Clifford.*

**Date of order.**

- Oct 20, 1887, *Portland street, from Friendship to Providence.*  
 “ “ “ *West Exchange street, from Cove to Atwell's avenue.*  
 Nov. 17, “ *Bernon street, from Candace to Nolan.*  
 “ “ “ *Durfee street, from Bridgham to Hammond.*  
 “ “ “ *Amy street, from Ives to Gano.*  
 “ “ “ *Potter's avenue, from Broad to Ocean.*  
 “ “ “ *Daboll street, from Updike to Public.*  
 “ “ “ *Sayles street, from Ocean to Plain.*  
 “ “ “ *Whelden street, from Printery to West River.*  
 “ “ “ *North Davis street, from Douglas avenue to old city line.*  
 Jan. 19, 1888, *Meadler street, from Almy to Harkness.*  
 “ “ “ *Westfield street, from Harrison to Dexter.*  
 Feb. 16, “ *Bogman street, from Hilton to Prairie avenue.*  
 Mar. 15, “ *Howe street, from Fenner avenue 450 feet easterly.*

**TO BE BROUGHT TO GRADE.****No. of resolution. Date of approval.**

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 “ 13, 1887, *Transit street, from Ives to Gano.*  
 Nov. 17, “ *Luther street, from Division to Durfee.*

**TO BE BUILT.**

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street.*

## TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

527. Oct. 26, 1887, *South Main street, from College to Crawford.*
559. Nov. 14, " *Prairie avenue, from Point to Lockwood.*

## BOUND STONE TO BE REMOVED.

541. Nov. 2, 1887, *Fenner avenue, between Cranston and the city.*

## SIDEWALKS TO BE CONCRETED.

589. Dec. 7, 1887, *Benefit street, west side, from Short alley to North Main street.*
617. " 20, " *Cooke street, from Waterman to Angell.*

## TO PROVIDE FOR SURFACE WATER.

- Mar. 15, 1888, *Eddy street, opposite Seymour.*

## TO CONFER WITH THE OWNERS AND ARRANGE FOR RAISING HOUSES AND GRADING LOTS.

No. of resolution. Date of approval.

583. Nov. 29, 1887, *West Exchange street, north side.*

Bills approved on account of highways from January 1 to March 31, 1888, inclusive, amounted to :

Regular appropriation,	\$37,997 15	
Special appropriation under chapter XCI,	7,627 31	
	<hr/>	\$45,624 46



## Classified as follows :

Screening gravel.....	\$9,610 93	
Crushed stone, material and labor.....	6,678 31	
Removing snow and ice.....	4,997 01	
Repairs on unpaved streets.....	4,423 23	
Cleaning streets.....	2,389 73	
Barn expenses.....	1,894 41	
Gravel land on Northup avenue.....	1,388 30	
Salaries—superintendents and clerks.....	1,265 50	
Blacksmith and wheelwright shop.....	1,043 78	
Tools, implements, etc.....	778 93	
Labor on materials.....	705 71	
Repairs on stone crushers.....	586 71	
Steam rollers—repairs and supplies.....	575 35	
Horses, wagons, carts, harnesses, etc.....	312 13	
Watchman at city yard.....	211 95	
Stone—paving and crosswalk.....	121 34	
Sundries.....	82 94	
Fencing streets, material and labor.....	63 72	
Office expenses, city yard.....	16 66	
Telephone lines.....	11 65	
Repairs on paved streets.....	10 87	
		<b>\$37,166</b>

NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.  
SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Brown street</i> , from Olive to Olney.....	\$3,000 00
<i>Charles street</i> , from Corliss railroad crossing to West river.....	1,735 91
<i>Eddy street</i> , from Thurber's avenue to Pavillion avenue.....	55 55
<i>Lockwood street</i> , from Broad to Pine.....	267 75
<i>Potter's avenue</i> , from Broad to Greenwich.....	750 82
<i>Princeton avenue</i> , from Greenwich to Updike.....	639 40

## BROUGHT TO GRADE.

<i>Harold street</i> , from Valley to Chalkstone avenue...	80 52
<i>Jackson avenue</i> , from Potter's avenue to Beckwith street.....	701 02

## RAISE BUILDINGS AND GRADE LOTS.

<i>West Exchange street</i> , south side.....	1,192 33
---	----------

## PAVE WITH GRANITE BLOCKS.

<i>Friendship street</i> , from Pearl to Broad.....	32 00	
		<b>8,45</b>
		<b>\$45,69</b>

Bills deposited with the city treasurer for collection from January 1 to March 31, 1888, inclusive, amounted to . . . . . \$1,118 16

As follows :

Labor and materials.....	\$611 32
Street sweepings.....	420 59
Manure from barn.....	82 50
Old shovels.....	3 75
	<hr/>
	\$1,118 16

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$851 75

As follows :

Labor and materials.....	\$565 54
Street sweepings.....	282 46
Old shovels.....	3 75
	<hr/>
	\$851 75

The expenditures on account of sidewalks and curbing from January 1 to March 31, 1888, inclusive, amounted to . . . . . \$1,532 11

Sidewalks and curbing bills deposited with the city treasurer for collection from January 1 to March 31, 1888, inclusive, amounted to . . . \$24,214 29

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$3,838 80

CHAS. E. CARPENTER,

CLINTON D. SELLEW,

CHAS. H. HUNT,

*Board of Public Works,*



1888.]

CITY DOCUMENT.

**TWENTY-SECOND  
QUARTERLY REPORT**  
OF THE  
**★ BOARD OF PUBLIC WORKS**  
OF THE  
**CITY OF PROVIDENCE, R. I.**

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**1888.**



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TWENTY-SECOND  
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OF THE  
BOARD OF PUBLIC WORKS

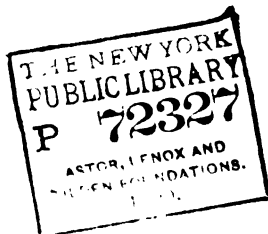
OF THE  
CITY OF PROVIDENCE, R. I.

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QUARTER ENDING JUNE 30, 1888.



PROVIDENCE:  
PROVIDENCE PRESS COMPANY, CITY PRINTERS.  
1888.



## ORGANIZATION OF THE BOARD OF PUBLIC WORKS

---

CHARLES E. CARPENTER, *President.*

CLINTON D. SELLEW, *Secretary.*

CHARLES H. HUNT.

---

OFFICES, CITY HALL.

# REPORT.

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OFFICE OF THE BOARD OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., October 1, 1888. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV of the ordinances approved February 14, 1883, the Board of Public Works respectfully presents its twenty-third quarterly report of the expenditures by the several departments under its direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending September 30, 1888.

## WATER WORKS.

On filling the new 24-inch high-service main in July last, chiefly to furnish water at Fruit Hill for reservoir work, it was found that the fluctuation in pressure caused alternate checking and racing of the engine then in use at Hope pumping station. The board looks for more or less of such action under the varying drafts upon the high-service system, especially during the summer, when hydrants are suddenly opened for street sprinkling and irrigation. Unless a stand-pipe shall be erected at Hope pumping station by the time Fruit Hill reservoir is brought into use, it may be desirable, at least, to run the high-service engines by night rather than by day. The foundations for a stand-pipe were put into the bank of Hope reservoir when it was constructed.

July 16th, an agreement of lease was executed with Samuel R. Greene, of a piece of land at Pawtuxet for one



year from July 15, 1888, at an annual rent of fifty dollars per year payable quarterly. This is a small portion of the Pawtuxet Mill estate.

August 10th, the offer of the Gloucester Iron Works to furnish 553 twelve-inch cast iron water pipes, delivered on wharf occupied by the city, for the sum of twenty-nine dollars and twenty-eight cents per ton of 2,240 pounds, was accepted.

September 12th, the offer of the Gloucester Iron Works to furnish 300 eight-inch cast iron water pipes, delivered on wharf occupied by the city, for the sum of twenty-nine dollars and sixty-nine cents per ton of 2,240 pounds, was accepted.

The average daily consumption of water during the quarter ending September 30, 1888, was 5,907,068 gallons.

Water pipes were laid during the quarter in the following streets :

12-INCH.

In Atwell's avenue..... 1,412 39 feet,

8-INCH.

In Charles, Promenade, Silver Spring and Smith streets, Fruit Hill and Woonasquatucket avenues, and in Woonasquatucket avenue, North Providence..... 4,780 61 feet.

6-INCH.

In Alton, Blackstone, Brook, Clayton, Cushing, Eiswald, Erastus, Evergreen, Fifth, Goodhue, Greeley, Grove, Hamill, Harriet, Huron, Lavaugh, Leah, Marietta, Official, Old road, Oxford, Sixth, Veto, Wayne and Wendell streets, Adelaide, Aventine, Fairmount, Pomona, Summit and Welcome avenues, in Cambridge, Clarence, Clarendon, Magnolia streets and Orchard avenue, Cranston, in

---

Rocky Hill avenue, Johnston, and in Metcalf avenue, North Providence.....	9,419.03 feet.
Total.....	15,612.03 feet,

or 2.95 + miles.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084	feet.
30-inch.....	59,637	feet.
24-inch.....	43,378.29	feet.
20-inch.....	6,854.8	feet.
18-inch.....	31,605.42	feet.
12-inch.....	59,125.23	feet.
10-inch.....	14,758.1	feet.
8-inch.....	156,820.51	feet.
6-inch.....	719,227.67	feet.
Total.....	1,101,491.02	feet,

or 208.61+ miles.

Thirteen fire hydrants were set during the quarter, one in each of the following locations :

Alverson avenue, Johnston, about 100 feet south of gangway near Joseph R. Pike's house.

Atwell's avenue, north side, opposite west line of Erastus street.

Atwell's avenue, north side, about 50 feet west of Leah street.

Blackstone street, north side, about 460 feet east of Friendship street.

Brook street, west side, about 100 feet north of Cushing street.

Charles street, east side, about 460 feet south of Branch avenue.

Clayton street, east side, about 220 feet north of Orms street.

Elswald street, east side, south corner of Grove street.

Fifth street, north side, about 210 feet west of Broad street.

North Allen street, Johnston, northeast corner of Lexington street.

Rocky Hill avenue, Johnston, northeast corner of Laban street.

Trenton street, Johnston, east side, opposite north line of Johnston street.

Woonasquatucket avenue, northwest corner of Fruit Hill avenue.

One fire hydrant was removed from the following location :

Bova street, west side, about 124 feet north of Oregon street.

The total number of fire hydrants is now thirteen hundred : twelve hundred and eighty-nine flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, September 30, 1888, viz. :

No. of resolution. Date of approval.

270.	June	20,	1887,	<i>Eagle street, from end of pipe about 50 feet northerly.</i>
482.	Oct.	5,	"	<i>Fenner avenue and Greene street, Cranston, from Reservoir avenue.</i>
365.	July	18,	1888.	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
411.	Aug.	8,	"	<i>Chalkstone avenue, from Ruggles street westerly about 1,449 feet.</i>
454.	Sept.	6,	"	<i>Cushing street, from Brown street westerly about 162 feet.</i>
460.	"	"	"	<i>Wellington street, Cranston, from Park avenue northerly about 240 feet.</i>
462.	"	"	"	<i>Woodbine street, Cranston, from end of pipe southerly about 707 feet.</i>
489.	"	24	"	<i>Jackson avenue, from Potter's avenue southwesterly about 194 feet.</i>
490.	"	"	"	<i>River avenue, from Smith street northerly, about 131 feet.</i>

During the quarter one hundred and forty-two water meters were set, of which number twelve were to replace other meters. The use of eleven meters was discontinued. The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,964	585	141	43	6	.....	.....	3,739
Ball & Fitts, rotary.....	.....	.....	22	26	3	7	3	61
Crown.....	3,343	515	134	54	15	3	4	4,068
Fales, Jenks & Sons.....	13	8	2	.....	.....	.....	.....	23
Worthington.....	42	1	.....	.....	1	.....	1	45
	6,362	1,109	299	123	25	10	8	7,936

Six hundred and thirty-one permits to do plumbing work were issued during the quarter.

Two hundred and three applications for water were made during the quarter, making the total number, September 30, 1888, fifteen thousand and thirteen.

The number of new service stops opened during the quarter was two hundred and four.

The total number of service stops opened to September 29, 1888, inclusive, was fourteen thousand three hundred and thirty-five. The number in actual use September 29, 1888, was thirteen thousand five hundred and sixty-four.

The amount of bills approved on account of water works, from July 1 to September 30, 1888, inclusive, was

For construction and extension, . . . \$70,741 13

Classified as follows :

Fruit Hill reservoir, for construction.....	\$40,234 15
Fruit Hill reservoir, main line to.....	3,508 18
Fruit Hill reservoir, for sundries.....	52 83
Amount carried forward.....	<u>\$43,795 16</u>

Amount brought forward.....	\$43,796 16
Fruit Hill reservoir, for telephone line.....	24 00
Cast iron water pipes.....	19,537 04
Laying water pipes.....	3,768 38
Special castings.....	1,205 84
Laying service pipes.....	960 44
Service pipe.....	563 41
Labor on and carting pipes.....	356 40
Barn expenses.....	344 18
Wharf salaries.....	100 00
Tools.....	61 53
Horses, wagons, etc.....	24 75
	<hr/>
	\$70,741 13

For maintenance, . . . . . \$19,197 15

Classified as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$3,001 22
Engineers.....	625 00
Sundries.....	536 98
Firemen.....	512 57
Oil, waste and packing.....	300 64
Superintendence.....	250 00
Lights.....	175 65
Care of grounds.....	156 67
Corniss pumping engine and house.....	155 19
Real estate.....	147 80
Labor on fuel.....	100 65
Barn expenses.....	82 20
Engine house, (Cornish).....	2 65
	<hr/>
	\$6,047 22

#### SOCKANOSSET RESERVOIR.

Watchman.....	\$138 00
Sundries.....	38 36
	<hr/>
	176 36

#### HOPE PUMPING STATION.

Coal and wood.....	\$1,856 25
Engineers.....	800 00
Firemen.....	458 00
Care of grounds.....	291 41
Lights.....	93 60
Sundries.....	61 88
	<hr/>
Amounts carried forward.....	\$3,561 14
	<hr/>
	\$6,223 58

Amounts brought forward.....	\$3,561 14	\$6,223 58
Pumping engine No. 2.....	54 08	
Pumping engine No. 1.....	14 34	
Oil, waste and packing.....	5 14	
		3,634 70

## HOPE RESERVOIR.

Watchman.....	\$207 00	
Sundries.....	90	
		207 90

## PIPE LINE AND SERVICE STOPS.

Superintendence—salaries.....	\$600 00	
Repairs.....	654 71	
		1,254 71

## METER DEPARTMENT.

Water meters.....	\$3,612 56	
Setting and repairing meters.....	1,155 74	
		4,768 30

## MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,191 68	
Barn expenses.....	313 55	
Telephone lines.....	260 47	
Horses, wagons, etc.....	140 00	
Analyses of water.....	97 20	
Sundries.....	58 84	
Public drinking fountains and troughs.....	39 02	
Pipe yard, office expenses.....	7 20	
		3,107 96
		\$19,197 15

The amount of expenditures, from July 1  
to September 30, 1888, inclusive, was . . . \$89,938 28

The total expenditures to September 30,  
1888, inclusive, was . . . . . \$6,726,172 41

The *net* expenditure for construction and extension from  
July 1 to September 30, 1888, inclusive, was..... \$69,562 62

The *net* expenditure for construction and extension to  
September 30, 1888, inclusive, was..... 5,332,383 39

The *net* expenditure for maintenance from July 1 to  
September 30, 1888, inclusive, was..... 14,410 03

The *net* expenditure for maintenance to September 30, 1888,  
inclusive, was..... 844,443 82

Bills deposited with the city treasurer for collection from July 1 to September 30, 1888, amounted to . . . . . \$39,116 37

As follows :

Water.....	\$33,074 87
Water meters.....	3,036 00
Setting and repairing meters.....	1,303 28
Rent of real estate.....	225 52
Pasturage at Sockanosset.....	60 00
Grass from Hope reservoir.....	50 00
Meter boxes.....	22 10
Penalties.....	8 00
Wood at Pettaconset.....	5 00
Repairs to service pipe.....	3 31
Water pipe in Borva street.....	427 38
Labor and materials, laying service pipes, etc.....	576 18
Cast iron water pipe.....	314 73
Manure from barn.....	10 00
	<hr/>
	\$39,116 37

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$37,642 86

As follows :

Water.....	\$31,665 23
Water meters.....	3,111 50
Setting and repairing meters.....	1,391 00
Rent of real estate.....	243 02
Meter boxes.....	22 10
Penalties.....	12 00
Repairs to service pipes.....	8 00
Old lawn mowers.....	6 50
Permanently closing service stops.....	5 00
Water pipe in Borva street.....	427 38
Labor and materials, laying service pipes, etc.....	350 60
Cast iron water pipe.....	298 03
Wood from Fruit Hill reservoir grounds.....	92 50
Manure from barn.....	10 00
	<hr/>
	\$37,642 86

The amount of bills approved on account of water works for the fiscal year ended September 30, 1888, was

For construction and extension, . . . \$139,925 35

Charged as follows :

Fruit Hill reservoir, for construction.....	\$61,473 47
Fruit Hill reservoir, main line to.....	21,707 67
Fruit Hill reservoir, for road.....	1,623 52
Fruit Hill reservoir, for sundries.....	1,009 56
Fruit Hill reservoir, for telephone line.....	276 88
Cast iron water pipe.....	23,540 46
Laying water pipe.....	9,054 12
Fire hydrants, boxes and covers.....	4,238 25
Special castings.....	2,943 51
Service pipe.....	2,781 33
Laying service pipes.....	2,780 71
Stop valves.....	1,675 55
Water pipes in Pawtuxet, south of bridge.....	1,500 00
Rent of wharf and pipe yard.....	1,250 00
Barn expenses.....	1,168 76
Taps and stops.....	966 00
Labor on and carting pipes.....	747 54
Wharf salaries.....	474 72
Tools.....	239 91
Horses, wagons, etc.....	184 44
Prevention of defilement of the Pawtuxet.....	150 00
Inspection of pipes.....	138 95
	<u>\$139,925 35</u>

For maintenance, . . . \$74,975 32

Charged as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$8,470 19
Sundries.....	2,678 77
Engineers.....	2,565 20
Firemen.....	1,930 82
Corliss pumping engine and house.....	1,647 48
Superintendence.....	1,000 00
Lights.....	874 95
Oil, waste and packing.....	840 77
Labor on fuel.....	495 90
Amount carried forward.....	<u>\$20,504 08</u>



Amount brought forward.....	\$20,504 08	
Real estate.....	434 07	
Care of grounds.....	280 41	
Barn expenses.....	224 09	
Engine house, (Cornish).....	130 71	
Worthington pumping engine.....	71 09	
Horses, wagons, etc.....	36 40	
		<u>\$21,680 85</u>

## SOCKANOSSET RESERVOIR.

Watchman.....	\$549 00	
Sundries.....	151 83	
		<u>700 83</u>

## HOPE PUMPING STATION.

Engineers.....	\$3,200 00	
Coal and wood.....	1,856 25	
Firemen.....	1,538 00	
Care of grounds.....	945 60	
Pumping engine No. 2.....	491 08	
Lights.....	455 85	
Sundries.....	191 70	
Oil, waste and packing.....	129 42	
Pumping engine No. 1.....	97 27	
		<u>8,905 17</u>

## HOPE RESERVOIR.

Watchman.....	\$823 50	
Sundries.....	2,916 80	
		<u>3,740 30</u>

## PIPE LINE AND SERVICE STOPS.

Superintendence—salaries.....	\$2,433 33	
Repairs.....	3,113 73	
		<u>5,547 06</u>

## METER DEPARTMENT.

Water meters.....	\$11,935 30	
Setting and repairing meters.....	4,164 56	
		<u>16,099 86</u>

## MISCELLANEOUS.

Town of Cranston, tax.....	\$5,590 00	
Clerks' and inspectors' salaries.....	8,936 36	
Thawing service pipes.....	917 68	
Barn expenses.....	779 54	
		<u>\$16,223 58</u>
Amounts carried forward.....	\$16,223 58	<u>\$56,674 07</u>

the proposals received for constructing sewer in Valley High streets and Broadway, September 19th, were all vetoed on account of price.

During the quarter the construction of the following sewers were completed, viz. :

Resolution.	Date of approval.	Date of completion.
	Dec. 31, 1887, <i>Washington street, from Dean to Battery, . . .</i>	July 9, 1888.
	April 20, 1888, <i>Parkis avenue, from Broad to near Greenwich street, . . .</i>	" 19, "
	May 23, " <i>Marshall street, from High to Carpenter, . . .</i>	" 11, "
	June 4, " <i>North Davis street, from Douglas avenue to end of sewer, . . .</i>	Sept. 1, "
	" 19, " <i>Williams street, from Ives street to a point about 100 feet from Governor street, . . .</i>	Aug. 9, "
	July 5, " <i>Young Orchard avenue and Hope street, from Cooke to Power, . . .</i>	" 22, "

September 30th, work was in progress upon the following sewers, viz. :

Resolution. Date of approval.

- Sept. 10, 1887, *West Exchange street, from Cove street to and across Atwell's avenue to*

*Ridge street, and in said Ridge street from Atwell's avenue to Tobey street:—that portion between Cove street and Brayton avenue has been contracted for and is building.*

268. June 4, 1888, *Cushing street, from Prospect to Thayer:—nearly completed.*

Work upon the following sewers, completing the list ordered by the City Council, had not commenced September 30, 1888, viz. :

No. of resolution. Date of approval.

438. Sept. 6, 1888, *Broadway, Valley and High streets.*  
 439. " " " *Arthur avenue, from Atwell's avenue to Africa street.*  
 440. " " " *Creighton street, from Prospect to Brown.*  
 481. " 24, " *Lawrence and Broad streets, Wesleyan avenue and Taylor streets.*  
 495. " " " *Hoyle street, from angle in said street to Fenner street.*

Bills approved on account of sewers from July 1 to September 30, 1888, inclusive, amounted to

For construction, . . . . . \$20,353 50

Charged as follows :

Materials.....	\$8,702 49
Rent of wharf and pipe yard.....	625 00
Testing cement.....	84 75
Clerk's salary.....	50 00
Tools.....	1 43
Additional catch basins.....	197 15
Sewer in Bates street, from Mallett to Lippitt.....	1,631 92
Sewer in Cushing street, from Thayer to Prospect..	2,358 07
Amount carried forward.....	\$13,650 81

Amount brought forward.....	\$13,650 81
Sewer in Hope street and Young Orchard avenue..	1,308 26
Sewer in Marshall street, from High to Carpenter..	339 09
Sewer in North Davis street, from end of sewer to Douglas avenue.....	478 45
Sewer in Parkis avenue, from Broad street westerly	932 96
Sewer in South Main street, from Cent to near Transit.....	4 33
Sewer in Washington street, from Battey to Dean..	1,539 85
Sewer in West Exchange street, from Brayton avenue to Cove.....	1,610 01
Sewer in Williams street, from Ives to near Governor.....	474 74
Contract reservations on completed sewers.....	15 00
	<hr/>
	\$20,353 50

For maintenance, . . . . . \$8,633 79

### Charged as follows :

Cleaning basins and sewers.....	\$6,028 31
Repairing basins and sewers.....	381 95
Cleaning and repairing old drains.....	508 97
Barn expenses.....	372 64
Superintendent's salary.....	350 00
Horses, wagons, etc.....	270 75
Tools.....	257 37
Inspection of connections.....	250 00
Cleaning private connections.....	85 48
Filling cisterns, etc.....	82 79
Telephone lines.....	34 77
Sundries.....	10 76
	<hr/>
	\$8,633 79

The <i>net</i> expenditures for construction of sewers to September 30, 1888, inclusive, was.....	\$1,888,325 58
The <i>net</i> expenditure for maintenance of sewers to September 30, 1888, inclusive, was.....	268,783 07

Bills deposited with the city treasurer for collection from July 1 to September 30, 1888, inclusive, amounted to . . . . . \$248 58

As follows :

Cleaning private drains.....	\$99 00
Use of pump.....	75 50
Filling cisterns.....	20 00
Pumping out cellars, etc.....	15 15
Private drains laid in streets.....	32 70
Materials.....	A 6 20
	<hr/>
	\$248 58

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$237

As follows :

Cleaning private drains.....	\$66 50
Use of pump.....	55 00
Filling cisterns, etc.....	27 00
Pumping out cellars, etc.....	24 50
Private drains laid in streets.....	47 96
Materials.....	16 39
	<hr/>
	\$237 35

The amount of bills approved on account of sewers for the fiscal year ended September 30, 1888, inclusive was

For construction, . . . . . \$39,968

Charged as follows :

Materials.....	\$13,346 32
Rent of wharf and pipe yard.....	1,250 00
Clerks' salary.....	316 67
Testing cement.....	229 78
Sundries.....	22 32
Tools.....	1 43
Additional catch basins.....	436 18
Sewer in Angell street, from Hope to Cooke.....	721 99
Sewer in Bates street, from Mallett to Lippitt.....	3,780 81
Sewer in Cabot street, from Angell to Meeting.....	490 40
Sewer in Carrington avenue, from East avenue to Camp street.....	2,150 09
Sewer in Charles and Ashburton streets.....	2 30
Sewer in Comstock avenue, from Broad street to Prairie avenue.....	5 60
Sewer in Cushing street, from Thayer to Prospect..	2,358 07
	<hr/>
Amount carried forward.....	\$25,111 96

Amount brought forward.....	\$25,111 96
Sewer in Davis street, from near Field to Orms.....	558 68
Sewer in Hay street, from Weybosset to Pine.....	358 52
Sewer in Hedley street, from Palmer to Polk.....	338 19
Sewer in Hope street and Young Orchard avenue...	1,308 26
Sewer in Marshall street, from High to Carpenter..	339 09
Sewer in North Davis street, from end of sewer to Douglas avenue.....	478 45
Sewer in Orms street, from end of sewer to Carroll street.....	70
Sewer in Parkis avenue, from Broad street westerly	932 96
Sewer in Royal street, from Knowles to North Main	1,010 32
Sewer in Seekell street, from near Pine to Broad...	411 84
Sewer in South Main street, from Cent to near Tran- sit.....	1,805 10
Sewer in State street, from its summit to Orms.....	821 51
Sewer in Stewart street, from Pond southerly.....	250 25
Sewer in Taber avenue, from Humboldt avenue to Irving street.....	1 15
Sewer in Traverse street, from Pike northerly.....	235 43
Sewer in Washington street, from Battey to Dean..	1,571 85
Sewer in West Exchange street, from Brayton ave- nue to Cove.....	1,610 01
Sewer in West Park street, from Holden southerly	418 57
Sewer in Williams street, from Ives to near Gov- ernor.....	474 74
Connections in South Main street.....	508 60
Contract reservations on completed sewers.....	1,422 00
	<u>\$39,968 18</u>

For maintenance, . . . . . \$23,748 29

### Charged as follows :

Cleaning basins and sewers.....	\$13,857 95
Repairing basins and sewers.....	1,658 85
Cleaning and repairing old drains.....	1,134 24
Barn expenses.....	1,741 65
Superintendent's salary.....	1,400 00
Horses, wagons, etc.....	1,209 22
Tools.....	1,145 72
Inspection of connections.....	1,000 00
Cleaning private connections.....	214 02
Filling cisterns, etc.....	170 71
Sundries.....	113 15
Telephone lines.....	57 85
Expense attending fires.....	44 93
	<u>\$23,748 29</u>

## HIGHWAYS.

Nine permits to open streets were issued during the quarter.

July 9th, the offer of John Garvey to furnish from one thousand to one thousand five hundred lineal feet of 14-inch crosswalk stone, was accepted. Amount, \$600.00.

August 9th, the proposal of John Garvey for furnishing fifteen thousand lineal feet of curbing was accepted and a contract subsequently executed. Amount, \$9,750.00.

August 13th, the offer of the Smith Granite Company to furnish, delivered on cars in this city, five hundred lineal feet of 10-foot radius curbing was accepted. Amount, \$400.00.

August 25th, the offer of E. D. Smith & Son to cover pavement in Prairie avenue with asphaltic top dressing was accepted. Amount, \$1,074.89.

September 17th, the proposal of Thomas Newman to pave and cover with asphaltic top dressing Luther street was accepted. Amount, \$899.06.

A statement of the cost of concreting sidewalks on Waterman street, under resolution of the city council, with ten per cent. added and amounting to \$25.00, was certified to the assessors of taxes July 14, 1888.

Statements have been prepared of the cost of curbstones set, ascertained by the board and certified to the board of aldermen for approval as follows, viz.

Smith street, from Ruggles to Oakland avenue.....	\$638 32
Angell street, from Butler to Grand avenue.....	863 14
	\$1,701 46

Uncollected curbing bills returned by the city treasurer were certified to the assessors of taxes August 23, 1888, amounting to \$8,375.92.

During the last quarter portions of the following streets and avenues have been repaired :

Admiral,	Summer;
Beacon,	Smith,
Bridgham,	Westfield,
Claverick,	Waterman,
Courtland,	Atwell's,
Comstock,	Brook,
Dexter,	Branch,
Eddy,	Chalkstone,
Eagle,	Carpenter,
Francis,	Elmwood,
Fountain,	Friendship,
Gould's lane,	Franklin,
Hawkins,	Hopkins,
Jackson,	Maple,
Marshall,	Olney,
North Main,	Planet,
Orms,	Putnam,
Plain,	Sutton,
Pine,	Washington,
Page,	West River.
Robinson lane,	

The heavy rain of August 13th caused much damage to the highways, and considerable time has been consumed and a large expense incurred in making the necessary repairs. Among the various wash-outs, those in the following named streets and avenues were the largest :

Atwell's,	Matilda,
Balch,	Potter,
Brayton,	Plain,
Chalkstone,	Star,
Colwell,	Senter,
Dexter,	Thurber,
Fenner,	Veazle,
Hopkins,	Valley,
Jackson,	West Exchange,
Mountain,	



Acorn,  
Brook,  
Branch,  
Capron,  
Cedar,  
Douglas,  
Hamilton,

Mowry,  
Pawtucket,  
South Court,  
Transit,  
Vandewater,  
Vale.

During the quarter ending September 30, 1888, the following work was completed, viz. :

### SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

- June 18, 1885, *Public street, from Broad to Greenwich.*  
 Oct. 15, " *Smith street, from Ruggles to Oakland avenue.*  
 June 17, 1886, *Cypress street, from Camp to East avenue.*  
 " " " *Violet street, from Orms to Chalkstone avenue.*  
 Sept. 15, 1887, *Amherst street, from Putnam to Manton avenue.*  
 " " " *Prairie avenue, from Thurber's avenue to Broad street.*  
 Nov. 17, " *Durfee street, from Bridgham to Hammond.*  
 " " " *Whelden street, from Printery to West River.*

### PUT IN SUITABLE CONDITION FOR PUBLIC TRAVEL.

Date of order.

- July 16, 1888, *Burr's lane.*

### TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

527. Oct. 26, 1887, *South Main street, from College to Crawford.*  
 347. July 5, 1888, *Approach to Washington bridge from Gano street.*

TO CONFER WITH THE OWNERS AND ARRANGE FOR RAISING HOUSES AND GRADING LOTS.

399. Sept. 7, 1887, *West Exchange street, south side.*

BROUGHT TO GRADE.

Date of order.

Nov. 17, 1887, *Luther street, from Division to Durfee.*

SIDEWALKS TO BE CONCRETED.

June 28, 1888, *Beacon street, front of ward-room.*

TO MAKE IMMEDIATE PROVISION TO PREVENT SURFACE WATER STANDING ON.

June 21, 1888, *Luther street.*

TO BE REPAIRED.

May 10, 1888, *Rachel street, from Thurber's avenue to Autumn street.*

319. June 21, " *Page and Friendship streets, in the immediate vicinity of estate of Horace Remington.*

The necessity for doing the following work has passed. The property has been purchased by the New York, Providence & Boston Railroad Company and the buildings are being moved away.

TO CONFER WITH THE OWNERS AND ARRANGE FOR RAISING HOUSES AND GRADING LOTS.

No. of resolution. Date of approval.

583. Nov. 29, 1887, *West Exchange street, north side.*

July 16th, the following work was ordered suspended until further orders of the board of aldermen.

## SIDEWALKS TO BE CURBED AND GUT

Date of order.

June 17, 1886, *Chalkstone avenue, from  
avenue.*

The following work was in progress :  
viz. :

## SIDEWALKS TO BE CURBED AND

Date of order.

June 21, 1888, *Harold street, from  
avenue:—nearly co*  
“ “ “ *Vandewater street,  
Branch avenue:—  
work has been do*

## TO BE MACAD.

345. July 5, 1888, *Ocean stre-  
avenue:—*

## TO BE I

465. Sept. 6, 1888. *Luther*

## PUT IN SUITABLE CONDI

Date of order.

Sept. 5, 1888, *Carrington* *and*  
—consider *to*  
rington av *Br*  
*Updā*  
*Ocean*  
*st, from*

TO BE BI: *st, from*

Date of order.

June 18, 1885, *Austin* *st, from*  
*lic street* *st, from*  
has bee *on Ha*

- 18, 1885, *Hamilton street, from Potter's to Adelaide avenue*:—the greater portion of this street has been brought to grade.

E BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.

- 1, 1886, *Ridge street, from the west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge*:—the grading of Ridge street is completed.

TO TAKE POSSESSION OF.

- 16, 1885, *Gordon avenue, from Public to Colfax street*:—finished except removal of fence at Gallup street.
- 16, 1886, *West Exchange street, from Cove to Atwell's avenue*:—some filling has been done between Atwell's avenue and the railroad company's engine house.

PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

- 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE FILLED.

- 7, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

The following work ordered by the board of aldermen and city council had not commenced September 30, 1888, viz. :

SIDEWALKS TO BE CURBED AND GUTTERS PAYED.

Date of order.

- June 17, 1886, *Austin street, from Public to Potter's avenue.*  
    " " " *Hamilton street, from Potter's to Adelaide avenue.*  
Nov. 18, " *Ridge street, from west line of Tobey to Atwell's avenue.*  
May 19, 1887, *Lilac street, from Cranston to Brattle.*  
    " " " *Sayles street, from Miner to Prairie avenue.*  
Oct. 20, " *Capron street, from Julian to Chaffee.*  
    " " " *Hendrick street, from Academy to Mount Pleasant avenue.*  
    " " " *Linden street, from Friendship to West Clifford.*  
    " " " *Portland street, from Friendship to Providence.*  
    " " " *West Exchange street, from Cove to Atwell's avenue.*  
Nov. 17, " *Bernon street, from Candace to Nolan.*  
    " " " *Amy street, from Ives to Gano.*  
    " " " *Potter's avenue, from Broad to Ocean.*  
    " " " *Daboll street, from Updike to Public.*  
    " " " *Sayles street, from Ocean to Plain.*  
    " " " *North Davis street, from Douglas avenue to old city line.*  
Dec. 15, " *Bellevue avenue, from Cranston street to Long Pond.*  
    " " " *Transit street, from Ives to Gano.*  
Jan. 19, 1888, *Meader street, from Almy to Harkness.*  
    " " " *Westfield street, from Harrison to Dexter.*

- Feb. 16, 1888, *Bogman street, from Hilton to Prairie avenue.*
- Mar. 15, " *Howe street, from Fenner avenue 450 feet easterly.*
- April 19, " *Lilac street, from Brattle to Salem.*
- " " " *Pomona avenue, from Academy avenue to Pemberton street.*
- May 17, " *Dye street, from Broadway to Atwell's avenue.*
- " " " *Mathewson street, from Sabin to Cove.*
- " " " *Perry street, from High to Broadway.*
- June 21, " *Bates street, from Mallett to Riley.*
- " " " *Riley street, from Bates to Lippitt.*
- " " " *Plain street, from Public to Potter's avenue.*
- " " " *Almy street, from Penn to Gesler.*
- Sept. 20, " *Darling street, from McKenna to West River.*
- " " " *Halsey street, from Brown to Prospect.*

## TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*
- " 13, 1887, *Transit street, from Ives to Gano.*

## TO BE BUILT.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street.*

## SIDEWALKS TO BE CONCRETED.

589. Dec. 7, 1887, *Benefit street, west side, from Short alley to North Main street.*

Bills approved on account of highways from  
July 1 to September 30, 1888, inclusive,  
amounted to :

Regular appropriation, . . . . .	\$72,738 72	
Special appropriation under chap- ter xci, . . . . .	12,319 20	
	<hr/>	\$85,057 9

Classified as follows :

Repairs on unpaved streets.....	\$17,945 05	
Cleaning streets.....	9,144 07	
Crushed stone, material and labor.....	4,962 33	
Stone—paving and crosswalk.....	3,761 17	
Barn expenses.....	2,061 52	
Salaries—superintendent and clerks.....	1,333 00	
Blacksmith and wheelwright shop.....	1,130 86	
Horses, wagons, etc.....	463 38	
Tools, implements, etc.....	480 07	
Labor on materials.....	463 93	
Repairs on paved streets.....	435 16	
Steam rollers—repairs and supplies.....	290 56	
Repairs on stone crushers.....	235 82	
Watchman at city yard.....	220 50	
Sundries.....	118 37	
Watering streets.....	62 17	
Telephone lines.....	35 33	
Fencing streets, material and labor.....	14 50	
	<hr/>	\$43,215

**NEW WORK.—BUILDING AND RE-BUILDING STREETS,  
SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Amherst street</i> , from Putnam to Manton avenue....	\$3,134 22	
<i>Angell street</i> , from Butler avenue to Grand avenue..	128 82	
<i>Brown street</i> , from Olive to Olney.....	4,289 15	
<i>Capron street</i> , from Julian to Chaffee.....	27 02	
<i>Chalkstone avenue</i> , from Douglas to Smith.....	28 35	
<i>Chalkstone avenue</i> , from Charles to Black.....	99 39	
<i>Charles street</i> , from Corliss railroad crossing to West River.....	443 60	
<i>Cypress street</i> , from Camp to East avenue.....	3,580 47	
<i>Durfee street</i> , from Bridgham to Hammond.....	448 44	
<i>Eddy street</i> , from Thurber's to Pavillon avenue.	127 76	
<i>Harold street</i> , from Valley to Chalkstone avenue...	2,779 60	
<i>Hedley street</i> , from Palmer to Shove.....	4 83	
	<hr/>	
Amounts carried forward.....	\$15,061 65	\$43,215

Amounts brought forward.....	\$15,081 65	\$43,215 81
<i>Hendrick street</i> , from Academy to Mount Pleasant avenue.....	14 12	
<i>Ives street</i> , from Pitman to Waterman.....	115 49	
<i>Jewett street</i> , from Holden to Senter.....	5 46	
<i>John street</i> , front of Doris Linker estate.....	25 38	
<i>Lilac street</i> , from Cranston to Brattle.....	65 66	
<i>Lockwood street</i> , from Broad to Pine.....	20 53	
<i>Potter's avenue</i> , from Broad to Greenwich.....	1,120 37	
<i>Prairie avenue</i> , from Thurber's avenue to Broad street.....	3,652 89	
<i>Princeton avenue</i> , from Greenwich to Updike street.....	6 80	
<i>Public street</i> , from Broad to Greenwich.....	4,561 83	
<i>Sayles Street</i> , from Miner to Prairie avenue.....	39 78	
<i>Smith street</i> , from Ruggles to Oakland avenue.....	622 73	
<i>Vandewater street</i> , from Branch to Douglas avenues.....	1,522 94	
<i>Violet street</i> , from Orms to Chalkstone avenue.....	1,037 88	
<i>Whelden street</i> , from Printery to West River.....	220 14	

## BROUGHT TO GRADE.

<i>Harold street</i> , from Chalkstone avenue to Valley street.....	118 60
<i>Jackson avenue</i> , from Potter's avenue to Beckwith.....	40 00

## PAVED WITH GRANITE BLOCKS.

<i>Friendship street</i> , from Pearl to Broad.....	93 00
<i>Prairie avenue</i> , from Point to Lockwood.....	3,944 95
<i>South Main street</i> , from College to Crawford.....	6,537 03
<i>Tockwotton street</i> , westerly approach to Washington bridge.....	291 11

## REPAIRED.

<i>Page and Friendship streets</i> , vicinity of Remington estate.....	216 89
<i>Rachel street</i> , from Thurber's avenue to Autumn street.....	5 73

## PUT IN CONDITION SAFE FOR PUBLIC TRAVEL.

<i>Bates street, Carrington avenue and Abbott street..</i>	253 07
<i>Burr's lane</i> .....	60 75

## REMOVED OBSTRUCTIONS.

<i>Taylor street</i> , from Wesleyan to Willard avenues...	13 01
<i>Updike street</i> , to Peace street.....	3 65

## RAISED BUILDINGS AND GRADED LOTS.

<i>West Exchange street</i> , south side.....	2,029 17	
Amounts carried forward.....	\$41,720 08	\$43,215 81



Amounts brought forward.....	\$41,720 08	\$43,215
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**CONCRETED SIDEWALK.**

<i>Beacon street</i> , front of 5th ward room.....	12 45
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**BUILD.**

<i>Ocean street</i> , from Public street to Thurber's avenue.....	109 58	
	<u>41,842</u>	
		\$85,057

Bills deposited with the city treasurer for collection from July 1 to September 30, 1888, inclusive, amounted to . . . . . \$8,257 3

As follows :

Labor and materials.....	\$7,922 73
Street sweepings.....	279 13
Manure from barn.....	52 50
Use of wheel scraper.....	3 00
	<u>\$8,257 35</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$13,620 7

As follows :

Labor and materials.....	\$13,309 50
Street sweepings.....	248 51
Manure from barn.....	53 75
Old chaise.....	5 00
Use of wheel scraper.....	3 00
Chopping blocks.....	1 00
	<u>\$13,620 76</u>

The expenditures on account of sidewalks and curbing from July 1 to September 30, 1888, inclusive, amounted to . . . . . \$5,456 3

Sidewalks and curbing bills deposited with the city treasurer for collection during the quarter amounted to . . . . . \$1,742 02

During the quarter coupons from sidewalks and curbing bills collected have been returned by the city treasurer, and receipted for, amounting to \$6,148 65

The amount of bills approved on account of highways for the fiscal year ended September 30, 1888, was,

Regular appropriation.....	\$193,412 64	
Special appropriation under chapter xci.....	82,922 56	
		<u>\$276,335 20</u>

#### Charged as follows :

Repairs on unpaved streets.....	\$37,572 19	
Cleaning streets.....	27,571 09	
Crushed stone—material and labor.....	19,840 46	
Screening gravel.....	10,053 94	
Barn expenses.....	8,577 15	
Stone—paving and crosswalk.....	5,648 40	
Removing snow and ice.....	4,997 01	
Salaries—superintendent and clerks.....	4,688 25	
Blacksmith and wheelwright shop.....	4,257 08	
Repairs on paved streets.....	3,534 85	
Horses, wagons, etc.....	3,050 80	
Tools, implements, etc.....	2,703 62	
Labor on materials.....	2,237 10	
Repairs on stone crushers.....	1,904 53	
Steam rollers—repairs and supplies.....	1,419 36	
Gravel land on Northup avenue.....	1,388 30	
Watchman at city yard.....	811 55	
Sundries.....	346 44	
Fencing streets—material and labor.....	178 02	
Watering streets.....	100 74	
Office expenses, city yard.....	80 10	
Telephone lines.....	58 08	
		<u>\$141,019 06</u>

#### NEW WORK—BUILDING AND RE-BUILDING STREETS.

##### SIDEWALKS CURBED AND GUTTERS PAVED.

Amherst street, from Putnam to Manton avenue...	\$5,790 45	
Angell street, from Butler to Grand avenue.....	1,351 55	
		<u>\$7,142 00</u>
Amounts carried forward.....	\$7,142 00	\$141,019 06

Amounts brought forward.....	\$7,142 00	\$14,019
Bernon street, from Douglas avenue to Candace....	2,412 36	
Brattle street, from Dahlia to Potter's avenue.....	1,508 13	
Briggs street, from Ocean to Plain.....	962 36	
Brown street, from Olive to Olney.....	8,902 35	
Cabot street, from Angell to Meeting.....	1,035 45	
Capron street, from Jullan to Chaffee.....	27 02	
Chalkstone avenue, from Douglas to Smith.....	1,304 76	
Chalkstone avenue, from Charles to Black.....	719 65	
Charles street, from Corliss railroad crossing to West River.....	8,559 10	
Cypress street, from Camp to East avenue.....	3,627 43	
Durfee street, from Bridgham to Hammond.....	448 44	
East Beacon street, from Marlborough to Beacon...	1,026 74	
Eddy street, from Thurber's to Pavillon avenue....	2,175 31	
Gesler street, from Knight to Vinton.....	570 76	
Grant street, from Knight to Carpenter.....	119 44	
Harold street, from Valley to Chalkstone avenue...	2,779 60	
Hedley street, from Palmer to Shove.....	735 25	
Hendrick street, from Academy to Mount Pleasant avenues.....	14 12	
Ives street, from Pitman to Waterman.....	1,106 87	
Jewett street, from Holden to Senter.....	1,679 82	
John street, front of Doris Linker estate.....	25 35	
Kossuth street, from Putnam to Hyatt.....	2,101 65	
Laura street, from Melrose to Hamilton.....	370 19	
Lilac street, from Cranston to Brattle.....	65 66	
Lockwood street, from Broad to Pine.....	2,049 64	
Marlborough street, from East Beacon to Lockwood.	353 20	
Peace street, from Broad to Prairie avenue.....	261 79	
Pekin street, from Chalkstone avenue to Bailey....	524 64	
Pleasant street, from North Main to Camp.....	4,746 94	
Potter's avenue, from Broad to Greenwich.....	7,261 67	
Prairie avenue, from Thurber's avenue to Broad street.....	3,715 59	
Princeton avenue, from Broad to Updike.....	457 01	
Princeton avenue, from Greenwich to Updike.....	2,331 32	
Public street, from Broad to Prairie avenue.....	3,807 00	
Public street, from Broad to Greenwich.....	5,797 20	
Sayles street, from Ocean to Miner.....	2 21	
Sayles street, from Miner to Prairie avenue.....	39 78	
Smith street, from Ruggles to Oakland avenue.....	1,915 03	
Somerset street, from Providence to Prairie avenue.	1,258 05	
Updike street, from Moore to Daboll.....	527 33	
Vandewater street, from Branch to Douglas avenue,	1,522 94	
Vineyard street, from Hawthorne to Carter.....	1,174 71	
Violet street, from Orms to Chalkstone avenue....	1,048 57	
Amounts carried forward.....	\$88,217 43	\$141,019

Amounts brought forward.....	\$88,217 43	\$141,019 06
Whelden street, from Printery to West River.....	900 98	
Whitmarsh street, from Broad to Updike.....	500 11	
Wilson street, from Harrison to Dexter.....	30 87	

## BROUGHT TO GRADE.

Briggs street, from Plain to Eddy.....	465 29
Harold street, from Chalkstone avenue to Valley...	4,101 76
Jackson avenue, from Potter's avenue to Beckwith street.....	3,098 79
Richardson street, from Eddy to Plain.....	173 04
Transit street, from Ives to Gano.....	216 55

## PAVED WITH GRANITE BLOCKS.

Friendship street, from Pearl to Broad.....	11,164 97
Prairie avenue, from Point street to Lockwood.....	5,444 38
South Main street, from College to Crawford.....	6,597 93
Tockwotton street, westerly approach to Washington bridge.....	291 11

## REPAIRED.

Page and Friendship streets, vicinity of Remington estate.....	216 89
Rachel street, from Thurber's avenue to Autumn street.....	5 73

## PUT IN CONDITION SAFE FOR PUBLIC TRAVEL.

Bates street, Carrington avenue and Abbott street..	253 07
Burr's lane.....	60 75

## REMOVED OBSTRUCTIONS.

Taylor street, from Wesleyan avenue to Willard avenue.....	13 01
Updike street, to Peace street.....	3 65

## RAISED BUILDINGS AND GRADED LOTS.

West Exchange street, south side.....	12,141 74
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## CONCRETED SIDEWALKS.

Beacon street, in front of the 5th ward room.....	12 45
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Amounts carried forward.....	\$133,910 50	\$141,019 06
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Amounts brought forward..... \$133,910 50    \$141,019 08

**BUILD.**

Ocean street, from Public to Thurber's avenue..... 109 58

**CONCRETED GUTTERS.**

Benefit street, from Transit to North Main..... 278 81

**PROVIDED FOR SURFACE WATER.**

Eddy street, opposite Seymour..... 1,017 25    135,316 14

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\$276,335 29

**CHAS. E. CARPENTER,**

**CLINTON D. SELLEW,**

**CHAS. H. HUNT,**

*Board of Public Works.*

CITY DOCUMENT.

[No. 13.]

TWENTY-FOURTH  
QUARTERLY REPORT  
OF THE  
BOARD OF PUBLIC WORKS  
OF THE  
CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1888.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
37 Custom House Street,  
1889.



1889.]

CITY DOCUMENT.

[No. 13.]

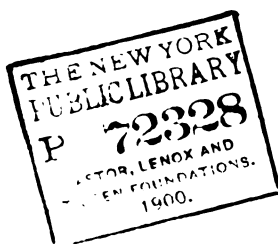
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## ORGANIZATION OF THE BOARD OF PUBLIC WORKS.

---

**CHARLES E. CARPENTER, *President.***

**CLINTON D. SELLEW, *Secretary.***

**CHARLES H. HUNT.**

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**OFFICES, CITY HALL.**

# REPORT.

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OFFICE OF THE BOARD OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., January 1, 1889. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV of the ordinances, approved February 14, 1883, the Board of Public Works respectfully presents its twenty-fourth quarterly report of the expenditures by the several departments under its direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending December 31, 1888.

## WATER WORKS.

December 3d, the offer of Thomas Phillips & Co. to furnish eleven and one-half tons of lead pipe and seven and one-half tons of pig lead was accepted. Amount, \$1,829.

December 3d, the offer of L. H. Tillinghast & Co. to furnish eleven and one-half tons of lead pipe and seven and one-half tons of pig lead was accepted. Amount, \$1,829.

Water pipes were laid during the quarter as follows :

### 16-INCH.

<i>In River avenue,</i>	.	.	.	140.94 feet.
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### 12-INCH.

<i>In Fenner avenue and in Park avenue,</i>	.	.	.	.	.	1,828.14 feet.
<i>Cranston,</i>	.	.	.	.	.	

## 8-INCH.

*In Jackson avenue, and in Woodbine street, Cranston,* . . . . . 941.92 feet.

## 6-INCH.

*In Atlantic, Ames, Cushing, Dart, Fourth, Handy, Oxford, Rankin and Wendell streets, Anthony, Home, Pomona and Tuxedo avenues; in Rocky Hill avenue, Johnston; and in Auburn, Greenwood and Wellington streets, Cranston,* . . . . . 4,551.53 feet.

Total, . . . . . 7,462.53 feet,  
or 1.41+ miles.

Water pipes have been removed from streets in Auburn, Cranston, because of changes in street lines, viz. :

12-inch.....	1.30 feet.
8-inch.....	8.50 feet.
6-inch.....	1,576.20 feet.
Total.....	1,586.00 feet.

or .3+ mile.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084	feet.
30-inch.....	59,637	feet.
24-inch.....	43,378.29	feet.
20-inch.....	6,854.8	feet.
16-inch.....	31,746.36	feet.
12-inch.....	60,952.07	feet.
10-inch.....	14,758.1	feet.
8-inch.....	157,753.93	feet.
6-inch.....	722,203	feet.
Total.....	1,107,367.55	feet.

or 209.72+ miles.

Four fire hydrants were set during the quarter, one in each of the following locations :

Dart street, north side, about 160 feet east of West River street.

Fourth street, north side, about 330 feet west of Broad street.

Pomona avenue, north side, about 250 feet west of Mount Pleasant avenue.

Wendell street, southeast corner of Ellery street.

The total number of fire hydrants is now thirteen hundred and four : twelve hundred and ninety-three flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, December 31, 1888, viz. :

No. of resolution.    Date of approval.

270.	June	20,	1887,	<i>Eagle street, from end of pipe about 50 feet northerly.</i>
482.	Oct.	5,	“	<i>Fenner avenue and Greene street, Cranston, from Reservoir avenue.</i>
365.	July	18,	1888,	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
411.	Aug.	8,	“	<i>Chalkstone avenue, from Ruggles street westerly about 1,449 feet.</i>
563.	Nov.	8,	“	<i>Delaine street, from Almira street to Valley street.</i>
564.	“	8,	“	<i>Fenner avenue, from near Burrington street, southerly about 572 feet; partly laid.</i>
579.	Dec.	1,	“	<i>Nichols street, from Whelden street southerly about 123 feet.</i>
629.	“	15,	“	<i>Rocky Hill road, Johnston, from end of pipe southerly about 80 feet.</i>

The average daily consumption of water during the last quarter, was 5,343,301 gallons; during the year, 5,518,691 gallons. The largest amount consumed in any one day during the year was 8,619,000 gallons.

During the quarter one hundred and eighty-two water meters were set, of which number twenty-two were to replace other meters. The use of two meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,970	587	141	43	6			3,747
Ball & Fitts, rotary.....			22	26	3	7	2	58
Crown.....	3,474	533	140	50	19	3	4	4,123
Fales, Jenks & Sons.....	10	6	2					18
Worthington.....	36	1			1		1	39
	6,490	1,127	305	125	29	10		8,086

Seven hundred and sixty-five permits to do plumbing work were issued during the quarter.

One plumber's license was issued during the quarter, making the total number issued during the year seventy-one.

One hundred and forty-two applications for water were

---

made during the quarter, making the total number, December 31, 1888, fifteen thousand one hundred and fifty-five.

The number of new service stops opened during the quarter was one hundred and fifty-nine.

The total number of service stops opened to December 31, 1888, inclusive, was fourteen thousand four hundred and ninety-four. The number in actual use December 31, 1888, was thirteen thousand six hundred and forty-three.

The following table shows the length, sizes, etc., of services laid during the year ending  
December 31, 1888.

MONTHS.	LENGTH OF SERVICES LAID IN FEET.					NUMBER AND SIZE OF TAPS USED.					NUMBER AND SIZE OF STOPS USED.					Service Boxes Used.		
	SIZES OF PIPES.					Total.	Trench- ing.	Paving.	NUMBER AND SIZE OF TAPS USED.				NUMBER AND SIZE OF STOPS USED.					
									¾ in.	½ in.	1 in.	1½ in.	¾ in.	½ in.	1 in.		1½ in.	¾ in.
	January.....	35.4	.....	.....	.....	.....	35.4	38.	.....	.....	3	.....	.....	.....	3		3	.....
February.....	54.0	.....	.....	.....	.....	54.	56.	3.	.....	2	.....	.....	.....	2	2	.....	.....	2
March.....	61.0	.....	.....	7.0	.....	68.	74.	11.	.....	6	.....	.....	1	7	6	.....	.....	7
April.....	660.2	38.2	.....	.....	.....	698.4	739.	111.	.....	46	2	.....	.....	48	47	1	.....	48
May.....	1,098.6	41.	26.2	8.2	8.2	1,182.2	1,225.	166.	.....	63	5	1	2	71	65	5	1	73
June.....	1,027.6	121.8	.....	.....	.....	1,149.4	1,253.	189.5	.....	69	10	.....	...	79	70	9	.....	79
July.....	1,135.8	114.2	8.2	51.4	.....	1,309.6	1,379.	176.	.....	70	8	1	3	82	74	6	1	84
August.....	649.8	44.8	7.	20.2	.....	721.8	791.	114.	.....	46	4	3	1	54	48	4	1	54
September.....	926.2	109.2	17.2	10.2	.....	1,062.8	1,130.	65.	.....	65	9	1	1	76	68	6	1	76
October.....	704.4	68.0	.....	.....	10.4	878.8	923.	95.	.....	55	8	2	.....	65	62	6	.....	68
November.....	585.6	16.4	.....	.....	31.3	633.2	670.	93.	.....	41	3	0	1	45	42	2	.....	45
December.....	468.	.....	8.2	8.2	.....	494.4	511.	49.	.....	29	3	1	1	34	32	.....	1	34
Total.....	7,496.6	553.6	66.8	106.2	56.8	8,278.0	8,768.	1,072.6	.....	495	52	9	10	566	519	39	5	573

The following table shows the length, sizes, etc., of services laid during twelve years ending December 31, 1888:

YEARS.	LENGTH OF SERVICES LAID IN FEET.										NUMBER AND SIZES OF TAPS USED.										NUMBER AND SIZES OF STOPS USED.										Service Boxes Used.
	SIZES OF PIPES.						Trench- ing.	Paving.	NUMBER AND SIZES OF TAPS USED.					NUMBER AND SIZES OF STOPS USED.																	
	¾ Inch.	¾ Inch.	1 Inch.	1¼ Inch.	1½ Inch.	Total.			¾ In.	¾ In.	1 In.	1 In.	¾ In.	¾ In.	1 In.	1 In.	¾ In.	¾ In.	1 In.	1 In.	¾ In.	¾ In.	1 In.	1 In.	Total.						
1877....	2,776.8	8,079.3	1,894.4	248.8	114.2	7.	13,710.5	.....	.....	173	571	114	15	6	879	173	571	114	15	6	879	173	571	15	6	879	896				
1878....	2,209.8	6,881.8	1,436.6	119.4	120.7	35.3	10,803.6	.....	.....	133	427	91	7	13	671	148	464	91	7	12	722	148	464	91	7	12	722	725			
1879....	1,624.9	6,107.5	874.4	275.7	66.3	7.	8,955.7	.....	.....	101	335	57	17	9	519	109	380	60	17	9	575	109	380	60	17	9	575	572			
1880....	2,163.6	5,951.2	1,150.0	483.6	186.1	16.9	9,951.4	.....	.....	136	334	66	25	17	578	141	368	67	26	17	609	141	368	67	26	17	609	603			
1881....	1,078.9	6,969.4	741.1	253.1	233.4	8.4	8,584.3	.....	.....	98	392	55	21	18	554	71	411	47	17	18	564	71	411	47	17	18	564	559			
1882....	.....	8,073.8	581.3	226.4	92.	32.	9,005.5	.....	.....	.....	511	49	17	15	592	.....	526	41	15	14	595	.....	526	41	15	14	595	610			
1883....	9.	8,075.83	761.09	143.	131.9	60.	9,180.82	.....	.....	1	508	61	12	14	596	2	537	44	10	13	606	2	537	44	10	13	606	629			
1884....	.....	8,048.72	732.2	266.3	119.6	23.2	9,190.02	.....	.....	.....	512	64	18	17	611	.....	539	61	15	13	618	.....	539	61	15	13	618	641			
1885....	32.9	7,971.78	667.1	106.4	34.	28.4	8,641.58	.....	.....	.....	490	48	11	7	556	1	519	32	5	6	563	.....	519	32	5	6	563	586			
1886....	23.	7,764.6	699.5	115.4	96.6	26.4	8,726.5	.....	.....	.....	481	64	13	12	570	.....	518	49	7	11	585	.....	518	49	7	11	585	609			
1887....	.....	8,381.8	456.6	81.4	75.8	20.2	9,015.8	.....	.....	.....	516	47	11	11	585	.....	543	32	7	10	592	.....	543	32	7	10	592	612			
1888....	.....	7,496.6	553.6	66.8	105.2	55.8	8,276.0	.....	.....	.....	496	52	9	10	566	.....	519	39	6	10	573	.....	519	39	6	10	573	587			
Total....	9,919.9	89,792.33	10,537.89	2,386.3	1,377.7	319.6	114,243.72	74,600.2	9,001.3	612	5,572	768	176	149	7,277	646	5,894	657	146	139	7,481	646	5,894	657	146	139	7,481	7,629			



Changes in size and location of services in 1888.

TAPS AND STOPS.										SIZES AND LENGTHS OF LEAD PIPE.									
TAKEN OUT.					INSERTED.					TAKEN OUT.					INSERTED.				
$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{4}$ inch.	1 inch.	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{4}$ inch.	1 inch.	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{4}$ inch.	1 inch.	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{4}$ inch.	1 inch.
31	19	2	1	1	.....	19	9	15	1	302	371.2	94	19	7	215.	189.2	.....	8	2
										TRENCHING.									
										Paving.									
										Change in size only.									
										Change in location only.									
										Change in both size and location.									
										Discontinued.									

The following table exhibits the number of service stops opened each month from the commencement to December 31, 1888.

MONTHS.	1871.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
January.....	54	33	31	84	55	15	49	9	20	7	17	15	31	17	18	26	7
February.....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10
March.....	38	34	63	7	45	32	60	19	40	23	39	11	28	9	24	16	14
April.....	109	109	108	39	106	82	78	52	58	55	49	55	62	48	68	60	38
May.....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	52
June...	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86
July.....	383	261	127	141	158	83	80	49	75	56	77	66	76	77	83	62	89
August.....	224	209	123	83	94	91	51	51	39	58	87	69	61	57	71	49	52
September.....	184	147	139	101	94	80	63	44	37	60	67	93	50	70	59	74	63
October.....	138	135	160	92	84	81	78	79	48	61	56	47	65	62	52	80	70
November.....	100	104	185	86	54	73	57	63	54	37	64	49	51	39	57	69	47
December.....	56	83	122	60	35	55	45	47	29	40	27	56	44	46	28	49	42
	56	1,863	1,364	977	1,068	865	777	573	618	548	614	612	611	575	595	612	570

The receipts for water each year since the commencement have been as follows :

Year.	Amount.	Year.	Amount.
1872.....	\$41,003 51	1881.....	\$280,530 87
1873.....	97,386 09	1882.....	280,318 77
1874.....	132,062 39	1883 .....	283,632 89
1875.....	165,144 71	1884.....	302,308 36
1876 .....	183,868 73	1885.....	313,561 21
1877.....	200,039 39	1886.....	321,064 67
1878.....	218,883 33	1887.....	339,513 00
1879.....	229,551 78	1888.....	346,731 88
1880.....	247,705 06		

The amount of bills approved on account of water works, from October 1 to December 31, 1888, inclusive, was

For construction and extension, . . . \$28,628 91

Classified as follows :

Fruit Hill reservoir, for construction.....	\$11,214 60
Fruit Hill reservoir, main line to.....	2,021 20
Fruit Hill reservoir, for road.....	41 85
Fruit Hill reservoir, for sundries.....	26 54
Fruit Hill reservoir, for telephone line.....	13 13
Cast iron water pipes.....	7,443 93
Laying water pipes.....	3,397 70
Service pipes.....	2,438 14
Laying service pipes.....	767 15
Stop valves.....	379 78
Special castings.....	373 91
Labor on and carting pipes.....	180 91
Barn expenses.....	141 04
Taps and stops.....	55 00
Wharf salaries.....	50 00
Horses, wagons, etc.....	43 87
Tools.....	41 16
	<u>\$28,628 91</u>

For maintenance, . . . . . \$28,183 26

Classified as follows :

PETTACONSET PUMPING STATION.

Coal and wood.....	\$3,670 04	
Engineers.....	625 00	
Sundries.....	544 26	
Firemen.....	495 93	
Superintendence.....	250 00	
Lights.....	188 10	
Labor on fuel.....	144 90	
Oil, waste and packing.....	130 57	
Real estate.....	126 73	
Care of grounds.....	53 55	
Corliss pumping engine and house.....	46 51	
Barn expenses.....	44 22	
Engine house (Cornish).....	19 20	
Cornish pumping engine.....	5 84	
		\$6,344 85

SOCKANOSSET RESERVOIR.

Watchman.....	\$138 00	
Sundries.....	35 05	
		173 05

HOPE PUMPING STATION.

Engineers.....	\$800 00	
Firemen.....	360 00	
Care of grounds.....	226 88	
Pumping engine No. 2.....	162 00	
Lights.....	135 75	
Oil, waste and packing.....	79 61	
Sundries.....	48 14	
Pumping engine No. 1.....	1 58	
		1,813 96

HOPE RESERVOIR.

Watchman.....	\$207 00	
Sundries.....	4 75	
		211 75

PIPE LINE AND SERVICE STOPS.

Superintendence—salaries.....	\$600 00	
Repairs.....	1,286 47	
		1,886 47
Amount carried forward.....		\$10,430 08

Amount brought forward.....	\$10.4
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**METER DEPARTMENT.**

Water meters.....	\$4,220 11
Setting and repairing meters.....	1,062 56
	<u>5.2</u>

**MISCELLANEOUS.**

Town of Cranston, tax.....	\$9,394 00
Clerks' and inspectors' salaries.....	2,479 26
Barn expenses.....	320 49
Analyses of water.....	94 95
Public drinking fountains and troughs.....	42 16
Real estate at Pawtuxet.....	41 09
Pipe yard, office expenses.....	40 35
Telephone lines.....	20 63
Town of Lincoln, tax.....	16 80
Horses, wagons, etc.....	16 22
Sundries.....	14 56
	<u>12.4</u>
	<u>\$27.4</u>

The amount of expenditures, from October 1  
to December 31, 1888, inclusive, was . . . \$56,812

The total expenditures to December 31,  
1888, inclusive, was . . . . . \$6,782,984

The *net* expenditure for construction and extension from  
October 1 to December 31, 1888, inclusive, was..... \$27.3

The *net* expenditure for construction and extension to  
December 31, 1888, inclusive, was..... 5,359.9

The *net* expenditure for maintenance from October 1 to  
December 31, 1888, inclusive, was..... 20.6

The *net* expenditure for maintenance to December 31, 1888,  
inclusive, was..... 865.1

Bills deposited with the city treasurer for col-  
lection from October 1 to December 31, 1888,  
inclusive, amounted to . . . . . \$37,200

As follows :

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Water.....	\$30,654 75
Water meters.....	4,346 75
Setting and repairing meters.....	1,134 99
Rent of real estate.....	243 02
Permanently closing service stops.....	30 00
Penalties.....	10 00
Labor and materials, laying service pipes, etc.....	667 06
Cast iron water pipe.....	113 28
Laying water pipe.....	4 08
	<hr/>
	\$37,203 93

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$47,006 94

As follows :

Water.....	\$38,488 00
Water meters.....	5,410 95
Setting and repairing meters.....	1,647 90
Rent of real estate.....	290 11
Pasturage at Sockanosset.....	60 00
Grass from Hope reservoir.....	50 00
Permanently closing service stops.....	30 00
Penalties.....	12 00
Repairs on pipe line, and services.....	7 31
Wood at Pettaconset.....	5 00
Labor and materials, laying service pipes, etc.....	923 02
Cast iron water pipe.....	78 57
Laying water pipe.....	4 08
	<hr/>
	\$47,006 94

## SEWERS.

During the quarter ending December 31, 1888, one hundred and sixty-two permits were issued to drain layers: ninety-one for new work, and seventy-one for extension and repair of drains.

One drain-layer's license was issued during the quarter, which expired December 31, 1888. Total number of drain layers' licenses issued this year, twenty-five.

November 23, the offer of the Smith Granite Co. to furnish thirty sets catch-basin stones, delivered on cars in this city, was accepted. Amount, \$750.

October 11th, contracts for the construction of sewers, which have since been signed, were awarded as follows, viz. :

[The amounts given below are what are estimated will be paid the contractors for labor, and does not include cost of inspection and materials.]

#### TO METROPOLITAN CONSTRUCTION CO.

No. of resolution. Date of approval.

438.	Sept. 6, 1888,	<i>Broadway, Valley and High streets,</i>	. . .	\$13,601 00
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#### TO SHAW & WHITTLESEY.

No. of resolution. Date of approval.

481.	Sept. 24, 1888,	<i>Lawrence and Broad streets, Wesleyan avenue and Taylor streets,</i>		\$2,588 45
495.	" " "	<i>Hoyle street, from angle in said street to Fenner street,</i>	. . . . .	488 80

November 8th, contracts for constructing sewers, which have since been signed, were awarded as follows, viz. :

#### TO FREDERICK E. SHAW.

505.	Oct. 8, 1888,	<i>Storm sewer in Point street, from end of sewer to Eddy street,</i>	. . .	\$524 50
548.	" 31, "	<i>Olney street, from Brenton avenue to end of sewer,</i>	. . . . .	*62 84

\* Exclusive of rock excavation.

During the quarter the construction of the following sewers completed, viz. :

Station.	Date of approval.		Date of completion.
Sept. 10,	1887,	<i>West Exchange street, from Cove street to Brayton avenue, (part of order), . . .</i>	Nov. 16, 1888.
June 4,	1888,	<i>Cushing street, from Prospect to Thayer, . . .</i>	Oct. 8, “
Sept. 6,	“	<i>Arthur avenue, from Atwell's avenue to Africa street, . . .</i>	“ 12, “
“ “	“	<i>Creighton street, from Prospect to Brown, . . .</i>	Dec. 21, “
“ “	“	<i>Lawrence and Broadstreets, Wesleyan avenue and Taylor streets, .</i>	Nov. 12, “
“ . “	“	<i>Hoyle street, from angle in said street to Fenner street, .</i>	Oct. 19, “
Oct. 8,	“	<i>Point street, from end of sewer to Eddy street, (storm sewer), . . .</i>	Nov. 24, “

On December 31, 1888, work was in progress upon the following sewers, viz. :



MONTHS.	OLD WORKS.										Total deposit re- moved, cubic yard.								
	OLD DRAINS.				SAND- CATCHERS.		BASINS.		SEWERS.			CATCH BASINS.							
	Num- ber.	Length in Feet.	Deposit re- moved, cu. yds.	Deposit re- moved, ber. cu. yds.	Deposit re- moved, ber. cu. yds.	Num- ber.	Length in Feet.	Deposit removed, cu. yds.	Dead ends cleaned.	Num- ber.		Deposit removed, cu. yds.	FILLED. From hy- drants or melt- ed snow						
January.....	2	15	.9		4	45.00				3	2,550	227.40		341	429.00	232	112	701.90	
February.....															100	141.77		100	141.77
March.....	1	200	Ice.		1	10.00				13	3,177	22.30		381	595.70	196	185	628.00	
April.....	3	30	.6		1	.00				27	675			546	770.80	478	70	772.00	
May.....										11	250	.44		689	727.56	585	104	728.00	
June.....	1	64	2.4		2	14.80				2	20			735	652.80	633	102	670.00	
July.....					13	111.40				10	140	.30		601	621.40	538	63	733.10	
August.....	13	120	12.3							19	240	3.00		1,122	1,084.50	882	240	1,699.80	
September ..					7	68.10				22	9,035	241.80		1,092	1,132.10	900	132	1,442.00	
October.....	1	16	.6		2	24.88				5	2,040	60.37	14	1,144	1,112.59	950	194	1,304.44	
November...	10	195	4.0							29	290			844	705.00	697	117	709.00	
December....	15	195	8.0		20	112.30				15	5,360	84.70	42	717	595.20	603	114	800.20	
Totals.....	46	835	28.8		50	367.08				156	24,677	645.91	56	8,315	9,168.43		1,583	10,230.21	

No. of resolution. Date of approval.

438. Sept. 6, 1888. *Broadway, Valley and High*  
—about one-half built.
548. Oct. 31. .. *Olney street, from Brenton on*  
*end of sewer*:—nearly compl

The length of sewers built during the past year was miles: 2.131 miles of pipe and .525 miles of brick length of sewers built to date is 42.311 miles of pi 18.414 miles of brick, making a total of 60.725 mile

The total connections made with the public sewers the year was 325: a total of 5,242 to date.

Work upon the following sewer, completing it ordered by the City Council, had not commenced Sept 30, 1888, viz.:

No. of resolution. Date of approval.

432. Sept. 10, 1887. *West Exchange street, from*  
*ton avenue to and across*  
*avenue to Ridge street, and in*  
*street from Atwell's avenue to*  
*street*: (part of order, the  
between Cove street and B  
avenue having been built.)

The maintenance of sewers during the past year involved quite an amount of detail work, and its m tools are frequently called upon to perform service fo departments.

MONTHS.	OLD WORK.						NEW WORK.						Total deposit re- moved, cubic yards.			
	OLD DRAINS.			SAND. CATCHERS.			BASINS.			SEWERS.				CATCH BASINS.		
	Num- ber.	Length in Feet.	Deposit re- moved, cu. yds.	Deposit re- moved, cu. yds.	Num- ber.	Deposit re- moved, cu. yds.	Num- ber.	Deposit re- moved, cu. yds.	Dead ends cleaned	Num- ber.	Deposit re- moved, cu. yds.	FILLED.		By rain or melt- ed snow.		
												From hy- drants.				
January.....	2	15	.9	4	45.00	.....	3	2,550	227.0	.....	341	489.00	232	112	701.90	
February.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	141.77	.....	100	141.77	
March.....	1	200	Ice.	1	10.00	.....	13	3,177	22.30	.....	381	595.70	196	185	628.00	
April.....	3	30	.6	1	.60	.....	27	675	.....	.....	546	770.80	478	70	772.00	
May.....	.....	.....	.....	.....	.....	.....	11	250	.44	.....	689	727.56	535	104	728.00	
June.....	1	64	2.4	2	14.80	.....	2	20	.....	.....	735	652.80	633	102	670.00	
July.....	.....	.....	.....	13	111.40	.....	10	140	.30	.....	601	621.40	538	63	733.10	
August.....	13	120	12.3	.....	.....	.....	19	240	3.00	.....	1,122	1,064.50	882	240	1,699.80	
September ..	.....	.....	.....	7	68.10	.....	22	9,835	241.80	.....	1,092	1,132.10	940	132	1,442.00	
October.....	1	16	.6	2	24.88	.....	5	2,040	66.37	14	1,144	1,112.59	950	104	1,204.44	
November...	10	195	4.0	.....	.....	.....	29	290	.....	.....	844	705.00	697	147	709.00	
December....	15	195	8.0	20	112.30	.....	15	5,360	84.70	42	717	595.20	603	114	800.20	
Totals.....	46	835	28.3	50	387.06	.....	156	24,677	645.91	56	8,315	9,168.43	6,792	1,563	10,230.21	

Bills approved on account of sewers from October 1 to December 31, 1888, inclusive, amounted to

For construction, . . . . . \$32,652 45

Charged as follows :

Materials.....	\$11,131 18
Testing cement.....	153 80
Clerk's salary.....	100 00
Sundries.....	38 75
Sewer in Arthur avenue, from Africa street to Atwell's avenue.....	253 86
Sewer in Creighton street, from Prospect to Brown.	1,630 06
Sewer in Cushing street, from Thayer to Prospect..	603 26
Sewer in Hoyle street, from its angle to Fenner street.....	490 47
Sewer in Olney street, from Brenton avenue to Thayer street.....	1,990 00
Sewer in Point street, from Eddy street to end of sewer.....	621 33
Sewer in Valley street, Broadway and High streets.	9,086 85
Sewer in Wesleyan avenue, Broad and Taylor streets.	2,708 97
Sewer in West Exchange street, from Brayton avenue to Cove street.....	3,672 92
Contract reservations on completed sewers.....	171 00
	<hr/>
	\$32,652 45

For maintenance, . . . . . \$6,897 58

Charged as follows :

Cleaning basins and sewers.....	\$3,938 46
Repairing basins and sewers.....	1,168 89
Cleaning and repairing old drains.....	375 00
Barn expenses.....	411 88
Salary—superintendent.....	350 00
Inspection of connections.....	250 00
Tools.....	167 99
Horses, wagons, etc.....	108 98
Cleaning private connections.....	67 51
Sundries.....	26 74
Filling cisterns, etc.....	26 51
Telephone lines.....	5 62
	<hr/>
	\$6,897 58

The net expenditure for construction of sewers to December 31, 1888, inclusive, was.....	\$1,920,679 71
The net expenditure for maintenance of sewers to December 30, 1888, inclusive, was.....	275,676 71

Bills deposited with the city treasurer for collection from October 1 to December 31, 1888, inclusive, amounted to . . . . . \$222 33

As follows :

Cleaning private drains.....	\$111 55
Pumping out cellars.....	28 98
Rebuilding manholes on Angell street for accommodation of Cable Tramway Co.....	38 40
Private drains laid in streets.....	41 52
Materials.....	1 88
	<hr/>
	\$222 33

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$294 26

As follows :

Cleaning private drains.....	\$165 80
Rebuilding manholes on Angell street, for accommodation of Cable Tramway Co.....	38 40
Pumping out cellars.....	31 16
Use of pump.....	10 50
Private drains laid in streets.....	41 52
Materials.....	6 88
	<hr/>
	\$294 26

## HIGHWAYS.

Ten permits to open streets were issued during the quarter.

October 18th, an offer of E. D. Smith & Son to cover the paving on Ocean street with asphalt top dressing for seventy cents per square yard, the street intersections for seventy-five cents per square yard, was accepted.

November 1, the proposal of John Garvey to furnish, delivered in this city,

20,000 lineal feet, straight curbing,  
1,000 lineal feet, circular curbing, 10-foot radius,  
1,500 lineal feet, circular curbing, 8-foot radius,  
50 curb-corners, 3-foot radius,  
200 curb-corners, 2-foot radius,  
2,000 lineal feet, 18-inch cross-walk stone,  
5,000 lineal feet, 14-inch cross-walk stone,  
5,000 square yards granite blocks,

was accepted. Amount, \$25,690.

December 3, the offer of Frederick E. Shaw to build man-hole over spring in Gay street, was accepted, the city to furnish the materials. Amount, \$94.

December 24, a statement of the cost of concreting sidewalks on Gano street, under resolution of the city council, with ten per centum added, amounting to \$37.60, was certified to the assessors of taxes.

During the year 1888 a little less than nine miles of curbing have been set, and over four and one-half miles of streets built.

During the last quarter portions of the following streets and avenues have been repaired :

Adie,  
Arch,  
Benefit,  
Bridgham,  
Broadway,  
Bradford,  
Cedar,  
Central,  
Chalkstone,  
Douglas,  
Federal,  
Fenner,  
Fountain,  
George,  
Langley,

Manton,  
Mathewson,  
Olive,  
Pike,  
Sheldon,  
Smith,  
Smithfield,  
Traverse,  
Vineyard,  
Washington,  
West Clifford,  
Woodward road,  
Winter,  
Worcester.

During the quarter ending December 31, 1888, the following work was completed, viz. :

#### SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

May	19,	1887,	<i>Lilac street, from Cranston to Brattle.</i>
"	"	"	<i>Sayles street, from Miner to Prairie avenue.</i>
Oct.	20,	"	<i>Capron street, from Julian to Chaffee.</i>
"	"	"	<i>Linden street, from Friendship to West Clifford.</i>
"	"	"	<i>Portland street, from Friendship to Providence.</i>
Nov.	17,	"	<i>Sayles street, from Ocean to Plain.</i>

#### TO BE BROUGHT TO GRADE.

June	18,	1885,	<i>Austin street, from Potter's avenue to Public street.</i>
"	"	"	<i>Hamilton street, from Potter's to Adelaide avenue.</i>

#### TO BE MACADAMIZED.

345.	July	5,	1888,	<i>Ocean street, from Public to Thurber's avenue.</i>
------	------	----	-------	---

#### TO BE BUILT.

465.	Sept.	6,	"	<i>Luther street.</i>
------	-------	----	---	-----------------------

#### PUT IN SUITABLE CONDITION FOR PUBLIC TRAVEL.

Sept.	5,	1888,	<i>Carrington avenue, Bates and Abbott streets.</i>
-------	----	-------	---

---

**TO SET CURBING AND CONCRETE SIDING  
SCHOOL ESTATES.**

547. Oct. 31, 1888, *Plain, corner Sa  
corner Sayles street*

**STREET TO BE GRADED AND APPLIED  
CONSTRUCTED.**

533. Oct. 22, 1888, *Manton avenue, from*

**TO BE FILLED.**

555. Oct. 31, 1888, *Lots of J. C. Schattle on Jacks*

**APPROACHES TO BE CONSTRUCTED  
CONCRETED.**

561. Nov. 8, 1888, *Adjoining fire  
and Burnett street*

**TO BE PAVED WITH COBBLES**

Nov. 22, 1888, *Bark street, from Al*

**TO BE BUILT**

572. Nov. 26, 1888, *Wall over city*

**PUT IN SUITABLE CONDITION**

Dec. 6, 1888, *Perry street.*



## SIDEWALKS TO BE CONCRETED.

574. Nov. 26, 1888, *Adjoining sixth police station on Capron street.*

586. Dec. 1, " *Gano street, from Angell to Pitman.*

The following work was in progress December 31, 1888,  
viz. :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

## Date of order.

June 7, 1886, *Austin street, from Public to Potter's avenue:—finished, except rolling.*

" " " *Hamilton street, from Potter's to Adelaide avenue:—curbing nearly all set and gutters paved.*

Oct. 20, 1887, *Hendrick street, from Academy to Mount Pleasant avenue:—finished, except rolling.*

Nov. 17, " *Bernon street, from Candace to Nolan:—gutters to be concreted.*

" " " *Amy street, from Ives to Gano:—curbing set and gutters paved; ready for graveling.*

June 21, 1888, *Harold street, from Valley to Chalkstone avenue:—nearly completed.*

" " " *Vandewater street, from Douglas avenue to Branch avenue:—about one-half of the work has been done.*

TO BE BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.

July 1, 1886, *Ridge street, from the west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge:—the grading of Ridge street is completed.*

## TO TAKE POSSESSION OF.

- April 16, 1885, *Gordon avenue, from Public to Colfax street*:  
—finished except removal of fence at Gal-  
lup street.
- Sept. 16, 1886, *West Exchange street, from Cove to Atwell's*  
*avenue*:—some filling has been done between  
Atwell's avenue and the railroad company's  
engine house.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

- Oct. 14, 1886, *Transit street, from Ives to Gano*:—some  
work has been done under this order.

## TO BE FILLED.

- July 17, 1884, *Pond opposite works of the Nicholson File*  
*Company*:—a large portion of the pond has  
been filled.

## TO BE BROUGHT TO GRADE.

- Oct. 18, 1888, *Chalkstone avenue, from River to Academy*:  
—about one-half done.

The following work ordered by the board of aldermen  
and city council had not commenced December 31, 1888,  
viz. :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Nov. 18, 1886, *Ridge street, from west line of Tobey to*  
*Atwell's avenue*.

## Date of order.

- Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue.*
- Nov. 17, " *Potter's avenue, from Broad to Ocean.*  
" " " *Daboll street, from Updike to Public.*  
" " " *North Davis street, from Douglas avenue to old city line.*
- Dec. 15, " *Bellevue avenue, from Cranston street to Long Pond.*  
" " " *Transit street, from Ives to Gano.*
- Jan. 19, 1888, *Meader street, from Almy to Harkness.*  
" " " *Westfield street, from Harrison to Dexter.*
- Feb. 16, " *Bogman street, from Hilton to Prairie avenue.*
- Mar. 15, " *Howe street, from Fenner avenue 450 feet easterly.*
- April 19, " *Lilac street, from Brattle to Salem.*  
" " " *Pomona avenue, from Academy avenue to Pemberton street.*
- May 17, " *Dye street, from Broadway to Atwell's avenue.*  
" " " *Mathewson street, from Sabin to Cove.*  
" " " *Perry street, from High to Broadway.*
- June 21, " *Bates street, from Mallett to Riley.*  
" " " *Riley street, from Bates to Lippitt.*  
" " " *Plain street, from Public to Potter's avenue.*  
" " " *Almy street, from Penn to Gesler.*
- Sept. 20, " *Darling street, from McKenna to West River.*  
" " " *Halsey street, from Brown to Prospect.*
- Oct. 18, " *Conduit street, from Stewart to Summer.*  
" " " *Erastus street, from Amherst to Atwell's avenue.*  
" " " *Jackson avenue, from Potter's avenue to Beckwith.*

## Date of order.

- Oct. 18, 1888, *Pawtucket avenue, from Cemetery street to city line.*
- Nov. 22, " *Angell street, from Butler to Wayland avenue.*
- " " " *Taber avenue, from 100 feet north of Boldt to north line of Irving avenue.*
- Dec. 20, " *Atlantic street, from Broad to Niagara*
- " " " *Adelaide avenue, from Niagara to Main street.*
- " " " *Colwell street, from Plain to Prairie at*
- " " " *Dahlia street, from Cranston to Brattle*
- " " " *Franklin avenue, from Chalkstone avenue to Vale street.*
- " " " *Oxford street, from Plain to Miner.*
- " " " *Roanoke street, from end of curb to Pleasant avenue.*

## TO BE BROUGHT TO GRADE.

## No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to*
- " 13, 1887, *Transit street, from Ives to Gano*

## TO BE BUILT.

432. Sept. 10, 1887, *West Exchange street, from Atlantic avenue to Cove street; also see said street.*

## SIDEWALKS TO BE CONCRETED.

589. Dec. 7, 1887, *Benefit street, west side, from alley to North Main street.*
562. Nov. 8, 1888, *Brown street, from Angell to B*
577. Dec. 1, " *Keene street, from Prospect to*

**GUTTERS TO BE PLOUGHED OUT AND ROADWAY  
GRAVELED.**

Nov. 22, 1888, *Dudley street, from Prairie avenue to  
Plain street.*

Bills approved on account of highways from  
October 1 to December 31, 1888, inclusive,  
amounted to :

Regular appropriation,	\$68,916 17	
Special appropriation under chap- ter XCI,	4 50	
	<hr/>	\$68,920 67

Classified as follows :

Repairs on unpaved streets.....	\$14,684 64	
Crushed stone—material and labor.....	8,002 50	
Cleaning streets.....	6,779 64	
Stone—paving and crosswalk.....	6,614 05	
Barn expenses.....	2,400 76	
Salaries—superintendent and clerks.....	1,238 00	
Blacksmith and wheelwright shop.....	1,224 45	
Labor on materials.....	827 02	
Repairs on paved streets.....	477 26	
Repairs on stone crushers.....	387 61	
Tools, implements, etc.....	348 22	
Horses, wagons, etc.....	302 59	
Steam rollers—repairs and supplies.....	301 35	
Watchman at city yard.....	189 00	
Fencing streets, material and labor.....	109 38	
Screening gravel.....	66 37	
Office expenses, city yard.....	40 66	
Sundries.....	25 55	
Telephone lines.....	3 46	
	<hr/>	\$44,022 51

**NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,**

**SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Amy street, from Ives to Gano.....</i>	\$508 69	
<i>Austin street, from Public to Potter's avenue.....</i>	651 54	
<i>Bernon street, from Candace to Nolan.....</i>	776 80	
	<hr/>	
Amounts carried forward.....	\$ 1,937 03	\$44,022 51

Amounts brought forward.....	\$1,937 03	\$4,022 51
<i>Capron street</i> , from Julian to Chaffee.....	1,137 58	
<i>Harold street</i> , from Valley to Chalkstone avenue...	1,617 10	
<i>Hamilton street</i> , from Potter's avenue to Adelaide avenue.....	1,893 79	
<i>Hendrick street</i> , from Academy to Mount Pleasant avenue.....	4,220 86	
<i>Lilac street</i> , from Cranston to Brattle.....	1,367 79	
<i>Linden street</i> , from Friendship to West Clifford....	598 71	
<i>Portland street</i> , from Friendship to Providence....	831 07	
<i>Potter's avenue</i> , from Broad to Ocean street.....	52 31	
<i>Prairie avenue</i> , from Thurber's avenue to Broad street.....	26 45	
<i>Sayles street</i> , from Miner to Prairie avenue.....	822 55	
<i>Sayles street</i> , from Ocean to Plain.....	989 01	
<i>Vandewater street</i> , from Branch avenue to Douglas avenue.....	308 58	
<i>West Exchange street</i> , from Cove to Atwell's avenue.....	4 50	

## BUILT.

<i>Luther street</i> , from Durfee to Division.....	899 06
<i>Ocean street</i> , from Public to Potter's avenue.....	3,399 37

## BROUGHT TO GRADE.

<i>Chalkstone avenue</i> , from River to Academy.....	2,891 78
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## REPAIRED.

<i>Rachel street</i> , from Thurber's avenue to Autumn street.....	26 58
--	-------

## PUT IN CONDITION SAFE FOR PUBLIC TRAVEL.

<i>Bates street</i> , <i>Carrington avenue</i> and <i>Abbott street</i> ..	441 67
--	--------

## GRADED AND APPROACHES CONSTRUCTED.

<i>Manton avenue</i> , front of fire station.....	326 90
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## SIDEWALKS CONCRETED AND APPROACHES CONSTRUCTED.

<i>Burnett and Public streets</i> , front of fire station....	46 19
---	-------

## SIDEWALKS CURBED AND CONCRETED.

<i>Sayles street</i> , corner <i>Plain</i> , and <i>Harriet street</i> , corner <i>Sayles</i> , adjoining school estate.....	229 90
--	--------

## SIDEWALKS CONCRETED.

<i>Capron street</i> , opposite sixth police station.....	7 64
---	------

Amounts carried forward.....	\$24,076 42	\$44,023 51
------------------------------	-------------	-------------

Amounts brought forward..... \$24,076 42 \$44,022 31

PAVED WITH COBBLE STONES.

*Bark street*, from Mill street, northerly..... 111 48

WALL BUILT UP OVER CISTERN.

*Gay street*..... 220 06

FILLED WITH EARTH LOTS OF JOHN C. SCHWAB AND  
CONRAD SCHATTLE.

*Jackson avenue*, corner *Balch street*..... 248 00

24,898 61

\$68,920 67

Bills deposited with the city treasurer for collection from October 1 to December 31, 1888, inclusive, amounted to . . . . \$908 43

As follows :

Labor and materials.....	\$623 43
Street sweepings.....	185 00
Manure from barn.....	52 50
Use of steam roller.....	47 50
	<hr/>
	\$908 43

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$2,356 63

As follows :

Labor and materials.....	\$1,845 13
Street sweepings.....	359 00
Manure from barn.....	105 00
Use of steam roller.....	47 50
	<hr/>
	\$2,356 63

The expenditures on account of sidewalks and curbing from October 1 to December 31, 1888, inclusive, amounted to . . . . \$12,729 08

As follows :

Granite curbing.....	\$12,694 90
Concreting sidewalks.....	34 18
	<hr/>
	\$12,729 08

Sidewalks and curbing bills deposited with the city treasurer for collection from October 1 to December 31, 1888, inclusive, amounted to . \$580

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$1,099

CHAS. E. CARPENTER,  
CLINTON D. SELLEW,  
CHAS. H. HUNT,

*Board of Public Work*

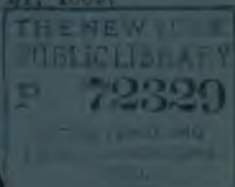


CITY DOCUMENT.

[No. 18.]

TWENTY-FIFTH  
QUARTERLY REPORT  
OF THE  
DEPARTMENT OF PUBLIC WORKS  
OF THE  
CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1889.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
27 Custom House Street.  
1889.



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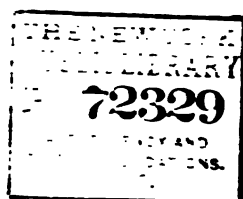
**TWENTY-FIFTH**  
**QUARTERLY REPORT**  
**OF THE**  
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**CITY OF PROVIDENCE, R. I.**

---

**QUARTER ENDING MARCH 31, 1889.**



**The Providence Press:**  
**SNOW & FARNHAM, CITY PRINTERS,**  
**37 Custom House Street.**  
**1889.**



# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., April 1, 1889. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV of the ordinances, the Commissioner of Public Works respectfully presents the twenty-fifth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending March 31, 1889.

February 11th, the undersigned, who had been elected by the city council Commissioner of Public Works, under the ordinance approved July 13, 1888, to succeed the former board of three commissioners, after taking the oath of office entered upon his duties.

## WATER WORKS.

During the quarter the boilers of the Worthington engine at Pettaconsett have been inspected and the boilers and engine thoroughly overhauled and put in good condition for instant service in case of accident or break-down of either the Corliss or Cornish pumping engines.

At the date of this report the Cornish engine and boilers were being thoroughly overhauled.

January 9th, the offer of the Whittier Machine Company to furnish, delivered in this city,

600  $\frac{1}{2}$ -inch taps,  
 600  $\frac{1}{2}$ -inch stops,  
 50  $\frac{3}{8}$ -inch taps,  
 20  $\frac{3}{8}$ -inch stops,  
 25  $\frac{3}{8}$ -inch taps,  
 10  $\frac{3}{8}$ -inch stops,

12 1-inch taps,  
 40 1-inch stops,  
 25  $\frac{3}{8}$ -inch plugs,  
 25  $\frac{1}{2}$ -inch plugs,  
 25  $\frac{3}{8}$ -inch plugs,

was accepted. Amount \$1,201.40.

January 16th, the offer of the Whittier Machine Company, to furnish.

8 12-inch,  
 20 8-inch,

60 6-inch,  
 15 4-inch,

water gates was accepted. Amount \$2,371.50.

January 16th, the offer of Fales & Jenks Machine Company, to furnish thirty fire hydrants and thirty fire hydrant boxes and covers was accepted. Amount \$4,200.00.

January 24th, the proposal of the Fuller Iron Works to furnish special castings, service boxes and castings for sewers, was accepted and a contract was subsequently executed.

March 12th, the competitive offer of Hopkins, Pomroy & Co. for the teaming required by the water and sewer departments for the season of 1889, was accepted.

Water pipes were laid during the quarter as follows :

#### 12-INCH.

In Fenner avenue..... 133.87 feet

#### 8-INCH.

In Nichols street, Chalkstone and Jackson avenues..... 2,384.73 feet

#### 6-INCH.

In Atlantic, Baxter, Bogman, Glenham, and St. James streets,  
 Chalkstone and Potter's avenues, and in Rocky Hill ave-  
 nue, Johnston..... 2,544.10 feet

Total..... 5,062.70 feet  
 or .95+ mile.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084	feet.
30-inch.....	59,637	feet.
24-inch.....	43,378.29	feet.
20-inch.....	6,854.8	feet.
16-inch.....	31,746.36	feet.
12-inch.....	61,085.94	feet.
10-inch.....	14,758.1	feet.
8-inch.....	160,138.66	feet.
6-inch.....	724,747.10	feet.
Total.....	1,112,430.25	feet,

or 210.68+ miles.

The request heretofore made for water upon the following streets has, in one case been withdrawn, and in the other the parties are otherwise supplied :

No. of resolution. Date of approval.

270. June 20, 1887, *Eagle street, from end of pipe about 50 feet northerly.*

482. Oct. 5, “ *Fenner avenue and Greene street, Cranston, from Reservoir avenue.*

Five fire hydrants were set during the quarter, one in each of the following locations :

Atlantic street, north side, about 240 feet east of Niagara street.

Chalkstone avenue, north side, about 500 feet west from Oakland avenue.

Fairmount avenue, north side, about 140 feet south of Mount Pleasant avenue.

Fenner avenue, southeast corner of Tyler street.

Potter's avenue, southwest corner of Baxter street.

The total number of fire hydrants is now thirteen hundred and nine : twelve hundred and ninety-eight flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, March 31, 1889, viz. :

No. of resolution. Date of approval.

365. July 18, 1888, *Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.*
563. Nov. 8, " *Delaine street, from Almira street to Valley street.*
83. Feb. 27, 1889, *Aventine avenue, from end of pipe northerly.*
103. Mar. 25, " *Eleventh street, from end of pipe easterly.*
126. " 25, " *Oriole avenue, from Butler avenue, easterly.*

The average daily consumption of water during the last quarter was 6,253,000 gallons.

During the quarter one hundred and fifty water meters were set, of which number two were to replace other meters. The use of five meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,982	588	142	43	6	.....	.....	3,761
Ball & Fitts, rotary.....	.....	.....	22	25	3	5	3	58
Crown.....	3,588	548	147	57	19	3	4	4,361
Fales, Jenks & Sons.....	10	6	2	.....	.....	.....	.....	18
Worthington.....	36	1	.....	.....	1	.....	1	38
	6,611	1,143	313	125	29	8	8	8,237

Four hundred and eighty-seven permits to do plumbing work were issued during the quarter.



fty-six plumber's licenses were issued during the quarter, all of which expire December 31, 1889.

venty-seven applications for water were made during quarter, making the total number, March 31, 1889, en thousand two hundred and thirty-two.

he number of new service stops opened during the quarter was eighty-one.

he total number of service stops opened to March 31, ), inclusive, was fourteen thousand five hundred and nty-three. The number in actual use March 31, 1889, thirteen thousand six hundred and eighty-one.

he amount of bills approved on account of water works, a January 1 to March 31, 1889, inclusive, was

construction and extension, . . . \$22,609 31

ssified as follows :

t Hill reservoir, for construction.....	\$10,828 80
t Hill reservoir, for sundries.....	9 76
t Hill reservoir, for telephone line.....	2 62
iron water pipes.....	5,862 96
valves.....	1,455 45
al castings.....	1,291 94
ng water pipes.....	1,070 44
ng service pipes.....	786 79
of wharf and pipe yard.....	625 00
hydrants, boxes and covers.....	175 00
expenses.....	169 69
es, wagons, harnesses, etc.....	101 36
f salaries.....	100 00
r on and carting pipes.....	73 35
.....	56 15
	<hr/>
	\$22,609 31

For maintenance, . . . . . \$13,509

Classified as follows :

**PETTACONSET PUMPING STATION.**

Coal and wood.....	\$1,688 27	
Engineers.....	625 00	
Sundries.....	615 37	
Firemen.....	553 25	
Superintendence.....	250 00	
Lights.....	247 03	
Oil, waste and packing.....	230 82	
Corliss pumping engine and house.....	167 85	
Labor on fuel.....	142 95	
Worthington pumping engine.....	64 08	
Barn expenses.....	45 36	
Care of grounds.....	1 80	
Real estate.....	42	
		<u>\$4,61</u>

**SOCKANOSSET RESERVOIR.**

Watchman.....	\$135 00	
Sundries.....	161 55	
		<u>29</u>

**HOPE PUMPING STATION.**

Engineers.....	\$800 00	
Firemen.....	400 00	
Lights.....	134 55	
Care of grounds.....	100 29	
Sundries.....	51 05	
Oil, waste and packing.....	2 08	
		<u>1,49</u>

**HOPE RESERVOIR.**

Watchman.....	\$202 50	
Sundries.....	16 30	
		<u>2</u>

**PIPE LINE AND SERVICE STOPS.**

Superintendence—salaries.....	\$625 00	
Repairs.....	889 72	
		<u>1,51</u>
Amount carried forward.....		<u>\$4,</u>

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 9

Amount brought forward..... \$8,150 26

## METER DEPARTMENT.

Meters.....	\$1,261 00	
And repairing meters.....	987 58	
		2,248 58

## MISCELLANEOUS.

And inspectors' salaries.....	\$2,400 00	
Wagons, etc.....	342 46	
Oil, office expenses.....	95 70	
Cost of water.....	95 55	
.....	78 11	
Repairs.....	52 45	
Painting fountains and troughs.....	30 82	
Electric lines.....	15 57	
		3,110 66
		\$13,509 50

Amount of expenditures, from January 1 to March 31, 1889, inclusive, was . . . \$36,118 81

Total expenditures to March 31, 1889, inclusive, was . . . \$6,819,103 39

Expenditure for construction and extension from January 1 to March 31, 1889, inclusive, was.....	\$22,409 03
Expenditure for construction and extension to March 31, 1889, inclusive, was.....	5,382,387 42
Expenditure for maintenance from January 1 to March 31, 1889, inclusive, was.....	10,262 40
Expenditure for maintenance to March 31, 1889, inclusive, was.....	875,388 21

Amount deposited with the city treasurer for collection from January 1 to March 31, 1889, inclusive, amounted to . . . \$280,305 61

It follows:

.....	\$276,395 93
Meters.....	2,527 00
And repairing water meters.....	890 30
Real estate.....	225 52
.....	106 00
Partly closing service stops.....	40 00
And materials, laying service pipes, etc.....	110 86
From barn.....	10 00
	\$280,305 61

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$268,133 67

As follows :

Water.....	\$264,598 29
Water meters.....	2,203 50
Setting and repairing water meters.....	835 17
Rent of real estate.....	178 43
Penalties.....	88 00
Permanently closing service stops.....	30 00
Labor and materials, laying service pipes, etc.....	92 96
Cast iron water pipes.....	97 32
Manure from barn.....	10 00
	<hr/>
	\$268,133 67

## SEWERS.

During the quarter ending March 31, 1889, sixty-nine permits were issued to drain layers: twenty-nine for new work, and forty for extension and repair of drains.

Twenty-two drain-layer's licenses were issued during the quarter, which expire December 31, 1889.

March 20th, the proposal of the Potomac Terra Cotta Company, of Washington, D. C., to furnish, delivered in this city, sewer pipes and invert blocks, was accepted, and a contract subsequently executed. Amount \$5,400.00.

March 20th, the proposal of Manchester & Hudson to furnish flag-stones for catch-basins, delivered in this city was accepted, and a contract subsequently executed. Amount \$551.00.

March 20th, the proposal of Charles P. Chapman to furnish catch-basin stones, delivered in this city, was accepted and a contract subsequently executed. Amount \$997.

During the quarter the construction of the following sewers was completed, viz. :

No. of resolution.	Date of approval.	Date of completion.
438.	Sept. 6, 1888, <i>Broadway, Valley and High streets,</i>	Mar. 16, 1889.
548.	Oct. 31, " <i>Olney street, from Brenton avenue to end of sewer,</i>	Jan. 12, "

Work upon the following sewer, completing the list ordered by the City Council, had not commenced March 31, 1889, viz. :

No. of resolution.	Date of approval.
432.	Sept. 10, 1887, <i>West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street from Atwell's avenue to Tobey street: (part of order, the portion between Cove street and Brayton avenue having been built.)</i>

Bills approved on account of sewers from January 1 to March 31, 1889, inclusive, amounted to

For construction, . . . . . \$15,838 73

Charged as follows :

Materials.....	\$2,474 62
Rent of wharf and pipe yard.....	625 00
Testing cement.....	168 35
Clerk's salary.....	50 00
Sundries.....	2 63
Sewer in Olney street, from Brenton avenue to Thayer street.....	699 34
Sewer in Valley street, Broadway and High streets.....	11,314 79
Contract reservations on completed sewers.....	504 00
	<hr/>
	\$15,838 73

For maintenance, . . . . . \$5,965 18

Charged as follows :

Cleaning basins and sewers.....	\$3,654 51
Repairing basins and sewers.....	154 29
Cleaning and repairing old drains.....	349 56
Barn expenses.....	374 13
Salary—superintendent.....	350 00
Tools.....	325 08
Horses, wagons, harnesses, etc.....	330 62
Inspection of connections.....	250 00
Cleaning private connections.....	82 90
Filling cisterns, etc.....	55 76
Sundries.....	39 43
Telephone lines.....	8 90
	<hr/>
	\$5,965 18

The <i>net</i> expenditure for construction of sewers to March 31, 1889, inclusive, was.....	\$1,936,415 84
The <i>net</i> expenditure for maintenance of sewers to March 31, 1889, inclusive, was.....	281,586 85

Bills deposited with the city treasurer for collection from January 1 to March 31, 1889, inclusive, amounted to . . . . . \$176 64

As follows :

Cleaning private connections.....	\$102 75
Filling cisterns, etc.....	35 90
Repairing sewer connection.....	16 89
Use of pump and labor.....	12 00
Private drains laid in streets.....	9 10
	<hr/>
	\$176 64

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$157 64

As follows :

Cleaning private connections.....	\$116 39
Filling cisterns, etc.....	32 15
Private drains laid in streets.....	9 10
	<hr/>
	\$157 64

## HIGHWAYS.

February 26th, the offer of E. D. Smith & Son to cover the gutters on Lexington avenue at Hamilton street for thirty-two cents per square yard was accepted.

March 14th, the proposal of E. D. Smith & Son to cover gutter paving with concrete top dressing and for concreting sidewalks was accepted and a contract was subsequently executed. The amount of the contract will depend largely upon amount of work ordered by your honorable body.

Four permits to open streets were issued during the quarter.

Statements have been prepared of the cost of curbstones set, and certified to the board of aldermen for approval as follows, viz. :

Brown street, from Olive to Olney.....	\$2,481 61
Hedley street, from Palmer to Shove.....	532 97
Ives street, from Pitman to Waterman.....	525 58
John street, No. 47, in front of estate of D. Linker.....	34 34
Eddy street, from Thurber's to Pavilion avenue.....	1,200 28
Amy street, from Ives to Gano.....	797 19
Cypress street, from Camp to East avenue.....	1,610 39
Sayles street, from Prairie avenue to Miner street.....	555 32
Portland street, from Friendship to Prairie avenue.....	414 67
Sayles street, from Ocean to Plain.....	876 71
Durfee street, from Hammond to Bridgham.....	348 33
Violet street, from Chalkstone avenue to Orms street.....	993 14
Amberst street, from Putnam to Manton avenue.....	1,972 05
Harold street, from Valley to Chalkstone avenue.....	2,987 85
Public street, from Greenwich to Broad.....	2,744 43
Hamilton street, from Potter's to Adelaide avenue.....	2,431 76
Prairie street, from Broad street to Thurber's avenue.....	2,122 63
Vandewater street, from Branch avenue southerly.....	1,502 98
Lilac street, from Cranston to Brattle.....	1,088 12
Whelden street, from Printery to West River.....	505 44
Bernon street, from Candace to Nolan.....	482 66
Linden street, from Friendship to West Clifford.....	280 46
Potter's avenue, from Greenwich street to Broad.....	2,846 68
Kendrick street, from Academy to Mount Pleasant avenue.....	2,034 10
Capron street, from Julian to Chaffee.....	692 97
Austin street, from Public to Potters avenue.....	645 44
Total.....	\$32,708 10

During the quarter portions of the following streets and avenues have been repaired :

Armington,  
Charles,  
Chalkstone,  
High,

James,  
South Main,  
Valley,

During the quarter the following work was completed :

**SIDEWALKS TO BE CURBED AND GUTTERS PAVED.**

Date of order.

Nov. 17, 1887, *Bernon street, from Candace to Nolan.*

**TO BE FILLED.**

No. of resolution. Date of approval.

30. Jan. 25, 1889, *Lot of Patrick Hannah, on Atwell's avenue.*

The following work was in progress March 31, 1889,  
viz. :

**SIDEWALKS TO BE CURBED AND GUTTERS PAVED.**

Date of order.

June 7, 1886, *Austin street, from Public to Potter's avenue:—finished, except concreting gutters.*

“ “ “ *Hamilton street, from Potter's to Adelaide avenue:—finished, except concreting gutters.*

Oct. 20, 1887, *Hendrick street, from Academy to Mount Pleasant avenue:—finished, except cross-walks and rolling.*

Nov. 17, “ *Amy street, from Ives to Gano:—finished, except laying cross-walks.*

“ “ “ *Potter's avenue, from Broad to Ocean:—curbing set and roadway nearly completed.*



June 21, 1888, *Harold street, from Valley to Chalkstone avenue*:—finished, except cross-walks and concreting gutters.

“ “ “ *Vandewater street, from Douglas avenue to Branch avenue*:—about one half of the work has been done.

TO BE BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.

July 1, 1886, *Ridge street, from the west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge*:—the grading of Ridge street is completed.

TO TAKE POSSESSION OF.

April 16, 1885, *Gordon avenue, from Public to Colfax street*:—finished except removal of fence at Gallup street.

Sept. 16, 1886, *West Exchange street, from Cove to Atwell's avenue*:—some filling has been done between Atwell's avenue and the railroad company's engine house.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE FILLED.

July 17, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

## TO BE BROUGHT TO GRADE.

Oct. 18, 1888, *Chalkstone avenue, from River to Academy:*  
—nearly completed.

The following work ordered by the board of aldermen  
and city council had not commenced March 31, 1889, viz.:

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Nov. 18, 1886, *Ridge street, from west line of Tobey to Atwell's avenue.*
- Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue.*
- Nov. 17, " *Daboll street, from Updike to Public.*
- " " " *North Davis street, from Douglas avenue to old city line.*
- Dec. 15, " *Bellevue avenue, from Cranston street to Long Pond.*
- " " " *Transit street, from Ives to Gano.*
- Jan. 19, 1888, *Meader street, from Almy to Harkness.*
- " " " *Westfield street, from Harrison to Dexter.*
- Feb. 16, " *Bogman street, from Hilton to Prairie avenue.*
- Mar. 15, " *Howe street, from Fenner avenue 450 feet easterly.*
- April 19, " *Lilac street, from Brattle to Salem.*
- " " " *Pomona avenue, from Academy avenue to Pemberton street.*
- May 17, " *Dye street, from Broadway to Atwell's avenue.*
- " " " *Mathewson street, from Sabin to Cove.*
- " " " *Perry street, from High to Broadway.*
- June 21, " *Bates street, from Mallett to Riley.*
- " " " *Riley street, from Bates to Lippitt.*

of order.

- e 21, 1888, *Plain street, from Public to Potter's avenue.*  
 " " *Almy street, from Penn to Gesler.*  
 t. 20, " *Darling street, from McKenna to West River.*  
 " " *Halsey street, from Brown to Prospect.*  
 . 18, " *Conduit street, from Stewart to Summer.*  
 " " *Erastus street, from Amherst to Atwell's avenue.*  
 " " *Jackson avenue, from Potter's avenue to Beckwith.*  
 " " *Pawtucket avenue, from Cemetery street to city line.*  
 . 22, " *Angell street, from Butler to Wayland avenue.*  
 " " *Taber avenue, from 100 feet North of Humboldt to north line of Irving.*  
 . 20, " *Atlantic street, from Broad to Niagara.*  
 " " *Adelaide avenue, from Niagara to Melrose street.*  
 " " *Colwell street, from Plain to Prairie avenue.*  
 " " *Dahlia street, from Cranston to Brattle.*  
 " " *Franklin avenue, from Chalkstone avenue to Vale street.*  
 " " *Oxford street, from Plain to Miner.*  
 " " *Roanoke street, from end of curb to Mt. Pleasant avenue.*  
 21, 1889, *Florence street, from Amherst to Manton avenue.*

### TO BE BROUGHT TO GRADE.

resolution. Date of approval.

- Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 " 13, 1887, *Transit street, from Ives to Gano.*

### TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street.*

### SIDEWALKS TO BE CONCRETED.

589. Dec. 7, 1887, *Benefit street, west side, from Short alley to North Main street.*  
 562. Nov. 8, 1888, *Brown street, from Angell to Halsey.*  
 577. Dec. 1, " *Keene street, from Prospect to Hope.*

### GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain street.*

### TO BE PAVED WITH GRANITE BLOCKS.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*

Bills approved on account of highways from  
 January 1 to March 31, 1889, inclusive,  
 amounted to: . . . . . \$46,113 25

### Classified as follows:

Crushed stone—material and labor.....	\$10,032 29
Cleaning streets.....	7,623 36
Screening gravel.....	6,697 39
Repairs on unpaved streets.....	4,192 11
Barn expenses.....	2,001 09
Stone—paving and crosswalk.....	2,518 87
Salaries—superintendent and clerks.....	1,369 00
Blacksmith and wheelwright supplies.....	1,162 54
Repairs on paved streets.....	1,154 51
Amount carried forward.....	\$36,751 16

Amount brought forward.....	\$36,751 16	
Labor on materials.....	961 82	
Horses, wagons, harnesses, etc.....	749 35	
Tools, implements, etc.....	725 17	
Steam rollers—repairs and supplies.....	610 07	
Repairs on stone crushers.....	516 37	
Removing snow and ice from streets.....	287 06	
Watchman at city yard.....	220 50	
Sundries.....	104 57	
Fencing streets, material and labor.....	91 36	
Office expenses, city yard.....	19 45	
Telephone lines.....	12 60	
		<b>\$41,049 48</b>

**NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Amy street</i> , from Ives to Gano.....	\$740 99
<i>Austin street</i> , from Public to Potter's avenue.....	60 54
<i>Bellevue avenue</i> , from Cranston street to Long Pond	26 50
<i>Bernon street</i> , from Candace to Nolan.....	81 94
<i>Hamilton street</i> , from Potter's avenue to Adelaide..	1,392 44
<i>Hendrick street</i> , from Academy avenue to Mount Pleasant.....	24 60
<i>Potter's avenue</i> , from Broad to Ocean.....	906 02
<i>Roanoke street</i> , from end of curb to Mount Pleasant avenue.....	1,631 16

**BROUGHT TO GRADE.**

<i>Chalkstone avenue</i> , from River avenue to Academy.	96 13
--	-------

**SIDEWALKS CONCRETED AND APPROACHES CONSTRUCTED.**

<i>Burnett and Public streets</i> , front of fire station.....	40 85
--	-------

**FILLED WITH EARTH.**

Patrick Hannah's lot on Atwell's avenue.....	62 60	
		<b>\$5,063 77</b>
		<b>\$46,113 25</b>

Bills deposited with the city treasurer for collection from January 1 to March 31, 1889, inclusive, amounted to . . . . . **\$827 77**

**As follows :**

Street sweepings.....	\$567 50
Labor and materials.....	207 02
Manure from barn.....	51 25
Chopping blocks.....	2 00
	<b>\$827 77</b>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$667

As follows :

Street sweepings.....	\$371 34
Labor and materials.....	296 26
	<hr/> \$667 60

The expenditures on account of sidewalks and curbing from January 1 to March 31, 1889, inclusive, amounted to . . . \$5,784

Curbing bills deposited with the city treasurer for collection, from January 1 to March 31, 1889, inclusive, amounted to . . . \$33,054 15

During the quarter coupons from curbing bills collected have been returned by the city treasurer, and receipted for, and amounting to . . . \$1,543 59

JOHN A. COLEMAN,

*Commissioner.*

CITY DOCUMENT.

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TWENTY-SIXTH  
QUARTERLY REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1889.



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**The Providence Press:**  
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37 Custom House Street.  
1889.



# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., July 1, 1889. }

**TO THE HONORABLE THE CITY COUNCIL :**

In compliance with the requirements of Chapter IV of the ordinances, the Commissioner of Public Works respectfully presents the twenty-sixth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending June 30, 1889.

## WATER WORKS.

April 5th, the Rhodes farm in Warwick was let to Frank O. Hellene for one year from April 1, 1889, for the monthly rent of \$12.50.

May 4th, the offer of the Gloucester Iron Works to furnish, delivered on wharf in this city,

233 20-inch cast iron water pipes and  
400 8-inch cast iron water pipes,

was accepted. Amount, \$8,325.00.

June 10th, an agreement of lease was executed with Albert A. Slocum, of a piece of land at Pawtuxet, for one year from May 1, 1889, at an annual rental of fifty (50) dollars. This is a small portion of the Pawtuxet mill estate.

Water pipes were laid during the quarter as follows :

12-INCH.

In Angell and Mathewson streets, and Harris avenue..... 1,888.44 feet.

8-INCH.

In Burrington, Plain, and Smith streets, Harris and Roger Williams avenues..... 1,129.71 feet.

6-INCH.

In Ashton, Balaklava, Bates, Beacon, Brook, Bush, Darling, Delaine, Dudley, Eleventh, Elizabeth, Ellery, Frankfort, Hall, Hassan, Lancaster, Marietta, Metcalf, Nahant, Oxford, Plum, Riley, Sackett, Smith, Wendell and Wood streets, Anthony, Aventine, Bellevue and Oriole avenues, and in Wentworth avenue, Cranston..... 8,026.40 feet.

Total..... 11,044.55 feet,

or 2.09+ miles.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,064	feet.
30-inch.....	59,637	feet.
24-inch.....	43,378.29	feet.
20-inch.....	6,854.8	feet.
18-inch.....	31,746.36	feet.
12-inch.....	62,974.38	feet.
10-inch.....	14,758.1	feet.
8-inch.....	161,268.37	feet.
6-inch.....	732,773.50	feet.
Total.....	1,123,474.80	feet,

or 212.78— miles.

Six fire hydrants were set during the quarter, one in each of the following locations :

Harris avenue, north side, about 150 feet west of Dale street.  
 Jackson avenue, south side, at the north corner of Beckwith street.  
 Mathewson street, east side, about 80 feet south from Cove street.

Roger Williams avenue, north side, about 470 feet west of Narragansett avenue.

Smith street, south side, east corner of Academy avenue.

Wendell street, north side, about 600 feet east of Messer street.

One fire hydrant was removed during the quarter from the following location :

Dale street, northeast corner of Barney street.

The total number of fire hydrants is now thirteen hundred and fourteen : thirteen hundred and three flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, June 30, 1889, viz. :

No. of resolution. Date of approval.

365.	July 18,	1888,	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
178.	April 25,	1889.	<i>Fairmount avenue, from end of pipe westerly.</i>
315.	June 25,	1889.	<i>Bergen street, from end of pipe northerly.</i>
316.	" "	" "	<i>Davoll street, from Bucklin street easterly.</i>
317.	" "	" "	<i>Friend street, from near North Main to Church.</i>
319.	" "	" "	<i>Powdermill street, from West River northwesterly.</i>
320.	" "	" "	<i>Wood street, from Ellery street westerly.</i>
321.	" "	" "	<i>Halborn street, from Messer street westerly.</i>
322.	" "	" "	<i>Peabody street, from East Main street westerly.</i>

The average daily consumption of water during the last quarter was 5,723,800 gallons.

During the quarter one hundred and twelve water meters were set, of which number five were to replace other meters. The use of eight meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{8}$ -in.	$\frac{1}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,986	589	144	42	6	.....	.....	3,767
Ball & Fitts, rotary.....	.....	.....	22	25	3	5	3	58
Crown.....	3,671	556	146	58	20	3	4	4,456
Fales, Jenks & Sons.....	10	6	2	.....	.....	.....	.....	18
Worthington.....	32	1	.....	.....	1	.....	1	35
	6,699	1,152	314	125	30	8	8	8,336

Four plumber's licenses were issued during the quarter, making the total number seventy, all of which expire December 31, 1889.

Seven hundred and seventy-three permits to do plumbing were issued during the quarter.

Two hundred and twelve applications for water were made during the quarter, making the total number, June 30, 1889, fifteen thousand four hundred and forty-four.

The number of new service stops opened during the quarter was one hundred and ninety-four.

The total number of service stops opened to June 30, 1889, inclusive, was fourteen thousand seven hundred and sixty-seven. The number in actual use June 30, 1889, was thirteen thousand nine hundred and thirty-three.

The amount of bills approved on account of water works, from April 1 to June 30, 1889, inclusive, was

For construction and extension, . . . \$49,275 80

Classified as follows :

Fruit Hill reservoir, for construction.....	\$33,913 04
Fruit Hill reservoir, for sundries.....	58 97
Fruit Hill reservoir, for telephone line.....	7 75
Fire hydrants, boxes and covers.....	4,240 92
Cast iron water pipes.....	3,868 19
Laying water pipes.....	2,226 30
Taps and stops.....	1,212 94
Stop valves.....	1,187 40
Laying service pipes.....	758 88
Rent of wharf and pipe yard.....	625 00
Special castings.....	599 70
Labor on and carting pipes.....	223 42
Barn expenses.....	128 04
Horses, wagons, harnesses, etc.....	74 80
Dedication of Doyle statue—laborers' holiday.....	51 25
Wharf salaries.....	50 00
Tools.....	49 20
	<u>\$49,275 80</u>

For maintenance, . . . \$14,377 03

Classified as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$996 04
Sundries.....	659 73
Engineers.....	625 00
Firemen.....	582 70
Superintendence.....	250 00
Amount carried forward.....	<u>\$3,113 47</u>

Amount brought forward.....	\$3,113 47	
Lights.....	208 05	
Care of grounds.....	200 77	
Cornish pumping engine.....	161 27	
Corliss pumping engine and house.....	154 29	
Oil, waste and packing.....	112 80	
Labor on fuel.....	95 63	
Barn expenses.....	46 80	
Cornish engine house.....	23 12	
Worthington pumping engine.....	10 25	
Real estate.....	4 25	
		<u>\$4,130</u>

## SOCKANOSSET RESERVOIR.

Watchman.....	\$136 50	
Sundries.....	37 01	
		<u>173</u>

## HOPE PUMPING STATION.

Engineers.....	\$800 00	
Firemen.....	436 00	
Care of grounds.....	302 79	
Hope pumping engine, No. 1.....	172 07	
Lights.....	101 70	
Oil, waste and packing.....	20 87	
Sundries.....	4 47	
Hope pumping engine, No. 2.....	4 37	
		<u>1,842</u>

## HOPE RESERVOIR.

Watchman.....		204
---------------	--	-----

## PIPE LINE AND SERVICE STOPS.

Repairs.....	\$767 77	
Superintendence—salaries.....	625 00	
		<u>1,392</u>

## METER DEPARTMENT.

Water meters.....	\$2,031 00	
Setting and repairing meters.....	959 17	
		<u>2,990</u>

## MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,918 65	
Barn expenses.....	372 38	
Analyses of water.....	96 60	
		<u>3,387 63</u>
Amounts carried forward.....	\$3,387 63	\$10,73



Amounts brought forward.....	\$3,387 63	\$10,734 17
Horses, wagons, harnesses, etc.....	68 00	
Telephone lines.....	63 07	
Public drinking fountains and troughs.....	43 13	
Sundries.....	33 23	
Real estate at Pawtuxet.....	31 40	
Pipe yard, office expenses.....	16 40	
		3,642 86
		<u>\$14,377 03</u>

The amount of expenditures, from April 1 to June 30, 1889, inclusive, was . . . \$63,652 83

The total expenditures to June 30, 1889, inclusive, was . . . \$6,882,756 22

The net expenditure for construction and extension from April 1 to June 30, 1889, inclusive, was..... \$48,891 29

The net expenditure for construction and extension to June 30, 1889, inclusive, was..... 5,431,278 71

The net expenditure for maintenance from April 1 to June 30, 1889, inclusive, was..... 11,496 11

The net expenditure for maintenance to June 30, 1889, inclusive, was..... 886,884 32

Bills deposited with the city treasurer for collection from April 1 to June 30, 1889, inclusive, amounted to . . . \$41,608 33

As follows :

Water.....	\$36,881 89
Water meters.....	2,418 00
Setting and repairing water meters.....	770 98
Rent of real estate.....	248 02
Penalties.....	22 00
Second-hand desk.....	5 00
Permanently closing service stop.....	5 00
Repairs to service pipes.....	2 00
Cast iron water pipes.....	713 06
Labor and materials, laying service pipes, etc.....	542 38
	<u>\$41,608 33</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$40,576 62

As follows :

Water.....	\$37,277 19
Water meters.....	1,949 50
Setting and repairing water meters.....	708 90
Rent of real estate.....	205 52
Penalties.....	34 00
Permanently closing service stops.....	10 00
Second-hand desk.....	5 00
Repairs to service pipes.....	2 00
Labor and material, laying service pipes, etc.....	335 38
Cast iron water pipes.....	49 13
	<hr/>
	\$40,576 62

## SEWERS.

During the quarter ending June 30, 1889, one hundred and sixty-three permits were issued to drain layers: one hundred and ten for new work, and fifty-three for extension and repair of drains.

Three drain-layer's licenses were issued during the quarter, making the total number twenty-five, all of which expire December 31, 1889.

June 12th, the proposal of Herbert R. Horton to furnish the cement required during the season of 1889, delivered on the work, was accepted, and a contract subsequently executed.

June 17th, proposals for furnishing 1,500,000 bricks were opened, and subsequently all rejected.

Assessments for the cost of constructing sewers in the following streets have been completed, and certified to the city treasurer, viz. :

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 11

Valley street, Broadway and High street.....	\$7,573 72
Wesleyan avenue, Broad and Taylor streets.....	5,065 89
Washington street, from Dean to Battey.....	3,517 96
West Exchange and Ridge streets, (completed from Brayton avenue to Cove street.....	3,204 38
Cushing street, from Prospect to Thayer.....	3,082 27
Bates street, from Mallett to Lippitt.....	2,953 30
Carrington avenue, from East avenue to Camp street.....	2,600 13
Young Orchard avenue and Hope street.....	2,341 05
Parkis avenue, from Broad to or near Greenwich street.....	1,887 99
Olney street, from Brenton avenue to end of present sewer in Olney street.....	1,822 02
Creighton street, from Prospect to Brown.....	1,468 07
Royal street, from Knowles to North Main.....	1,357 04
South Main street, from Cent to a point about 600 feet northerly.	990 24
Williams street, from Ives to a point about 100 feet from Governor.	870 00
North Davis street, from Douglas avenue to sewer in North Davis	790 78
Hoyle street, from angle in said street to Fenner street.....	755 72
Marshall street, from High to Carpenter.....	703 16
Arthur avenue, from Atwell's avenue to Africa street.....	208 43
<b>Total.....</b>	<b>\$41,192 15</b>

May 24th, the contract for constructing the following named sewer, which has since been signed, was awarded, (these contractors being the lowest bidders, except one who failed to furnish satisfactory bonds,) viz. :

[The amount given below is what it is estimated will be paid the contractors for labor, and does not include cost of inspection and materials.]

## TO MOULTON & O'MAHONEY.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street from Atwell's avenue to Tobey street,* . . . \$16,749 85

June 30, 1889, the sewer in West Exchange street was in process of construction between Atwell's avenue and the round house of the New York, Providence and Boston Railroad Company.

Work upon the following sewers, completing the list ordered by the City Council, had not commenced June 30, 1889, viz. :

No. of resolution. Date of approval.

171. April 22, 1889, *Barclay street, from end of sewer to Federal street.*
253. May 21, " *Francis street, from No. 58 to and through Woods avenue and Brownell street to Park street.*
276. June 13, " *Gay street, from Robinson to Dudley.*
277. " " " *Robinson street, from Gay to Prairie avenue.*
288. " 20, " *McKenna and Cross street, from Whelden to West River.*

Bills approved on account of sewers from April 1 to June 30, 1889, inclusive, amounted to

For construction, . . . . . \$4,213 93

Charged as follows :

Materials.....	\$2,862 75
Clerk's salary.....	100 00
Testing cement.....	85 10
Sundries.....	2 55
Additional catch basins.....	66 70
Sewer in Valley street, Broadway and High street..	3 50
Sewer in West Exchange and Ridge streets.....	568 33
Contract reservations on completed sewers.....	525 00
	<hr/>
	\$4,213 93

For maintenance, . . . . . \$4,476 76

Charged as follows :

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 13

Cleaning basins and sewers.....	\$2,160 54
Repairing basins and sewers.....	173 87
Cleaning and repairing old drains.....	307 77
Horses, wagons, harnesses, etc.....	709 94
Salary—superintendent.....	350 00
Barn expenses.....	306 01
Inspection of connections.....	250 00
Tools.....	129 41
Dedication of Doyle statue—laborers' holiday.....	48 50
Cleaning private connections.....	16 64
Sundries.....	9 70
Filling cisterns, etc.....	9 26
Telephone lines.....	5 12
	<hr/>
	\$4,476 76

The net expenditure for construction of sewers to June 30, 1889, inclusive, was.....	\$1,940,620 39
The net expenditure for maintenance of sewers to June 30, 1889, inclusive, was.....	285,968 99

Bills deposited with the city treasurer for collection, from April 1 to June 30, 1889, inclusive, amounted to . . . . . \$193 97

As follows :

Filling cisterns, etc.....	\$33 24
Cleaning private connections.....	28 63
Material, rebuilding private sewer.....	28 03
Old iron.....	13 90
Union Railroad Company, altering manholes.....	5 60
Old manhole frame and cover.....	3 10
Private drains laid in streets.....	45 13
Brick for private sewer.....	35 20
Sewer pipe.....	1 14
	<hr/>
	\$193 97

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$104 00

As follows :

Filling cisterns, etc.....	\$41 99
Cleaning private connections.....	30 63
Old manhole frames and covers.....	17 00
Use of pump.....	5 00
Private drains laid in streets.....	9 38
	<hr/>
	\$104 00

## HIGHWAYS.

Six permits to open streets were issued during the quarter.

May 10th, statements of the cost of concreting sidewalks on Keene street, from Prospect to Hope, and Brown street, from Angell to Halsey, under resolutions of the city council, with ten per centum added, and amounting to \$710.02, were certified to the city treasurer.

May 24th, the proposal of Moulton & O'Mahoney for constructing West Exchange street, from Atwell's avenue to Cove street, including a bank wall for a portion of the way on the northerly side, was accepted and the contract (which also provides for the construction of a sewer in Ridge and West Exchange streets, elsewhere mentioned in this report) was accepted. Amount, exclusive of materials furnished by the city, \$30,611.50.

June 14th, the proposal of John Garvey, to furnish curbing delivered in this city, was accepted, for five thousand lineal feet, and a contract was subsequently executed. Amount, \$3,000.00.

June 15th, the offer of B. J. Blanchard, to furnish from five hundred to six hundred lineal feet of straight curbing, delivered on cars at city yard, was accepted.

June 18th, the offer of the Oakland Granite Company, to furnish from fifteen hundred to two thousand lineal feet of straight curbing delivered on cars at city yard, was accepted.

During the quarter the following streets have been repaired, viz. :

RESURFACED.

Broad street, from Congress avenue to city line.  
 Camp street, from Olney to Larch.  
 Charles Field street, from Benefit to Hope.  
 Cole street, from Brook to East.  
 Harkness street, from Broadway to High.  
 Hope street, from Tockwotton to Charles Field.  
 John street, from Hope to Governor.  
 Pine street, from Broad to Potter.  
 Prospect street, from Olney to Angell.  
 Trenton street, from Ives to Governor.  
 Waterman street, from Prospect to Benefit.  
 Williams street, from Ives to Governor.  
 Vinton street, from Broadway to Gesler.

PAVED STREETS REPAIRED.

Charles street, from Mill to Chalkstone avenue.  
 High street, from Broad to Valley.  
 Randall street, from Charles to North Main.  
 South Main street, from Crawford to Bridge.  
 Wickenden street, from South Main to Brook.

The following streets were rebuilt :

James street, from South Main about 75 feet easterly.  
 Manning street, from Hope to Governor.  
 Valley street, from Broadway to the river.

During the quarter the following work was completed :

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 7, 1886, *Austin street, from Public to Potter's avenue.*  
 " " " *Hamilton street, from Potter's to Adelaide avenue.*  
 Oct. 20, 1887, *Hendrick street, from Academy to Mount Pleasant avenue.*  
 Nov. 17, " *Amy street, from Ives to Gano.*  
 " " " *Potter's avenue, from Broad to Ocean.*  
 Dec. 15, " *Bellevue avenue, from Cranston street to Long Pond.*

## Date of order.

- Jan. 19, 1888, *Meador street, from Almy to Harkness.*  
Feb. 16, " *Bogman street, from Hilton to Prairie avenue.*  
May 17, " *Dye street, from Broadway to Atwell's avenue.*  
" " " *Mathewson street, from Sabin to Cove.*  
" " " *Perry street, from High to Broadway.*  
June 21, " *Harold street, from Valley to Chalkstone avenue.*  
" " " *Plain street, from Public to Potter's avenue.*  
May 6, 1889, *Meador street, from Harkness to Tobey.*

## SIDEWALKS TO BE CONCRETED.

## No. of resolution. Date of approval.

562. Nov. 8, 1888, *Brown street, from Angell to Halsey.*  
577. Dec. 1, " *Keene street, from Prospect to Hope.*

TO BE BROUGHT TO GRADE AND PROVISION MADE FOR  
SURFACE WATER.

## Date of order.

- July 1, 1886, *Ridge street, from the west line of Tobey street to Atwell's avenue, and Atwell's avenue near railroad bridge:—the grading of Ridge street is completed and the sewer now building will take away the surface water.*

## TO TAKE POSSESSION OF.

- April 16, 1885, *Gordon avenue, from Public to Colfax street.*  
Sept. 16, 1886, *West Exchange street, from Cove to Atwell's avenue.*



### TO BE BROUGHT TO GRADE.

Date of order.

Oct. 18, 1888, *Chalkstone avenue, from River to Academy.*

### CULVERTS BUILT.

No. of resolution. Date of approval.

138. April 8, 1889, *Culvert across Blackstone street.*

164. " 22, " *Culvert across Humboldt avenue.*

### TREES REMOVED.

Date of order.

May 16, 1889, *Two trees on Friendship street in front of school estate.*

The following work was in progress June 30, 1889,  
viz. :

### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue:—bank wall commenced and some grading has been done.*

June 21, 1888, *Vandewater street, from Douglas avenue to Branch avenue:—about one half of the work has been done.*

Jan. 19, " *Westfield street, from Harrison to Dexter:—some excavation has been made.*

Oct. 18, " *Pawtucket avenue, from Cemetery street to city line:—about one-third of the work on the westerly side of the railroad track has been completed.*

Nov. 22, " *Angell street, from Butler to Wayland avenue:—curbing nearly all set.*

" " " *Taber avenue, from 100 feet North of Humboldt to north line of Irving:—work commenced June 29, 1889.*

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Date of order.

April 8, 1889, *Plain street, front of Hayward park*:—completed except concreting gutters.

TO TAKE POSSESSION OF.

April 13, “ *Ocean street, from Thurber’s avenue to Richardson street*:—a considerable portion of the grading has been done.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE FILLED.

July 17, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell’s avenue to Cove street; also sewer in said street*:—work being done under contract.

The following work ordered by the board of aldermen and city council had not commenced June 30, 1889, viz.:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 17, 1886, *Chalkstone avenue, from Academy to River.*

Nov. 18, “ *Ridge street, from west line of Tobey to Atwell’s avenue.*

## Date of order.

- Nov. 17, 1887, *Daboll street, from Updike to Public.*  
“ “ “ *North Davis street, from Douglas avenue to old city line.*  
Dec. 15, “ *Transit street, from Ives to Gano.*  
Mar. 15, 1888, *Howe street, from Fenner avenue 450 feet easterly.*  
April 19, “ *Lilac street, from Brattle to Salem.*  
“ “ “ *Pomona avenue, from Academy avenue to Pemberton street.*  
June 21, “ *Bates street, from Mallett to Riley.*  
“ “ “ *Riley street, from Butes to Lippitt.*  
“ “ “ *Almy street, from Penn to Gesler.*  
Sept. 20, “ *Darling street, from McKenna to West River.*  
“ “ “ *Halsey street, from Brown to Prospect.*  
Oct. 18, “ *Conduit street, from Stewart to Summer.*  
“ “ “ *Erastus street, from Amherst to Atwell's avenue.*  
“ “ “ *Jackson avenue, from Potter's avenue to Beckwith.*  
Dec. 20, “ *Atlantic street, from Broad to Niagara.*  
“ “ “ *Adelaide avenue, from Niagara to Melrose street.*  
“ “ “ *Colwell street, from Plain to Prairie avenue.*  
“ “ “ *Dahlia street, from Cranston to Brattle.*  
“ “ “ *Franklin avenue, from Chalkstone avenue to Vale street.*  
“ “ “ *Oxford street, from Plain to Miner.*  
“ “ “ *Roanoke street, from end of curb to Mt. Pleasant avenue.*  
Feb. 21, 1889, *Florence street, from Amherst to Manton avenue.*  
April 18, “ *Dahlia street, from Brattle to Salem.*  
“ “ “ *Updike street, from Daboll to Public and Peace to Moore.*

## Date of order.

- May 16, 1889, *Covell street, from Amherst to Atwell's avenue.*  
 " " " *Tanner street, from Pearl to Dudley.*  
 June 20, " *Admiral street, from Douglas avenue to Mowry street.*  
 " " " *Congress street, from Broad to Melrose.*  
 " " " *Grove street, from Knight to Vinton.*

## TO BE BROUGHT TO GRADE.

## No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 " 13, 1887, *Transit street, from Ives to Gano.*  
 Apr. 13, 1889, *Eddy street, from railroad bridge to Broad street.*  
 May 31, " *Robinson street, from Prairie avenue to Gay.*  
 285. June 14, " *Lot on Jackson avenue belonging to Rachel Paine.*  
 " 20, " *Manton avenue near junction of Chalkstone avenue.*

## GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain street.*

## TO BE BUILT.

## No. of resolution. Date of approval.

274. June 13, 1889, *Smith street, from Ruggles to city line.*

## TO BE PAVED WITH GRANITE BLOCKS.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*  
 269. May 21, " *Greenwich street, from near Sprague to Public.*

**TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.**

Date of order.

- May 2, 1889,** *Pontiac street, from Reservoir avenue to city line.*  
**June 6, “** *Swan street, from Plain to Ocean.*  
**“ “ “** *Farthing street, from Bridge to South Water.*

**TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR PUBLIC TRAVEL.**

**June 20, 1889.** *Grove street, from Knight to Vinton.*

**SIDEWALKS TO BE CONCRETED.**

No. of resolution. Date of approval.

- 589.** Dec. 7, 1887, *Benefit street, west side, from Short alley to North Main street.*  
**305.** June 25, 1889, *Corner of Atwell's and Academy avenues adjoining ward room.*  
**306.** “ “ “ *Manton avenue adjoining fire station.*  
**307.** “ “ “ *Adjoining “ Hayward Park.”*

**TO BE REPAIRED AT EXPENSE OF CITY.**

**June 20, 1889,** *Villa avenue, from Arlington to Taber.*

Bills approved on account of highways from April 1 to June 30, 1889, inclusive, amounted to :

Regular appropriation.....	\$63,336 97	
Special appropriation under chapter xci.....	6,527 17	
		<u>\$69,864 14</u>

## Classified as follows :

Repairs on unpaved streets.....	\$18,567 28	
Cleaning streets.....	8,662 26	
Stone—paving and crosswalk.....	6,156 46	
Repairs on paved streets.....	4,968 44	
Crushed stone—material and labor.....	4,061 50	
Salaries—superintendent and clerks.....	1,600 00	
Tools, implements, etc.....	1,587 67	
Barn expenses.....	1,336 24	
Blacksmith and wheelwright supplies.....	1,123 99	
Labor on materials.....	1,030 85	
Horses, wagons, harnesses, etc.....	960 39	
Steam rollers—repairs and supplies.....	848 81	
Dedication of Doyle statue—laborers' holiday.....	567 97	
Repairs on stone crushers.....	534 88	
Watchman at city yard.....	189 00	
Sundries.....	187 66	
Repairing sidewalks—public buildings.....	107 36	
Screening gravel.....	39 18	
Office expenses, city yard.....	8 20	
Telephone lines.....	5 75	
		<b>\$52,563 89</b>

NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Almy street</i> , from Penn to Gesler.....	\$474 00	
<i>Amy street</i> , from Ives to Gano.....	149 66	
<i>Angell street</i> , from Butler avenue to Wayland.....	61 30	
<i>Austin street</i> , from Public to Potter's avenue.....	119 07	
<i>Bellevue avenue</i> , from Cranston street to Long Pond.	2,062 95	
<i>Bogman street</i> , from Prairie avenue to Hilton street.	657 44	
<i>Daboll street</i> , from Updike to Public.....	4 30	
<i>Dye street</i> , from Broadway to Atwell's avenue.....	209 11	
<i>Hamilton street</i> , from Potter's avenue to Adelaide..	757 99	
<i>Harold street</i> , from Valley to Chalkstone avenue...	558 41	
<i>Hendrick street</i> , from Academy avenue to Mount Pleasant.....	247 75	
<i>Howe street</i> , from Fenner avenue 450 feet easterly..	40 02	
<i>Mathewson street</i> , from Sabin to Cove.....	909 37	
<i>Meador street</i> , from Almy to Harkness.....	771 09	
<i>Meador street</i> , from Harkness to Tobey.....	286 98	
<i>Pawtucket avenue</i> , from Cemetery street to city line.	3,388 61	
<i>Plain street</i> , from Public to Potter's avenue.....	935 02	
<i>Plain street</i> , adjoining Hayward Park.....	749 92	
<i>Perry street</i> , from High to Broadway.....	1,187 36	
<i>Potter's avenue</i> , from Broad street to Ocean.....	2,538 76	
<i>Ridge street</i> , from Tobey to Atwell's avenue.....	89 00	

Amounts carried forward..... \$16,198 11 **\$52,563 89**

Amounts brought forward.....	\$16,198 11	\$52,563 89
<i>Roanoke street</i> , from end of curb to Mount Pleasant avenue.....	112 62	
<i>Taber avenue</i> , from near Humboldt to Irving.....	45 35	
<i>West Exchange street</i> , from Cove to Ridge.....	211 69	

## CONSTRUCT CULVERTS.

<i>Blackstone street</i> .....	199 18
<i>Humboldt avenue</i> .....	181 06

## BROUGHT TO GRADE.

<i>Chalkstone avenue</i> , from River to Academy.....	186 52
---	--------

## TAKE POSSESSION OF.

<i>Ocean street</i> , from Thurber's avenue to Richardson street.....	165 72	
		17,300 25
		<u>\$69,864 14</u>

Bills deposited with the city treasurer for collection, from April 1 to June 30, 1889, inclusive, amounted to . . . . . \$551 68

## As follows :

Labor and materials.....	\$249 68
Street sweepings.....	206 00
Manure from barn.....	53 75
Chopping blocks.....	13 00
Pasturage.....	12 00
Old cart body, etc.....	9 00
Tools.....	8 25
	<u>\$551 68</u>

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$809 83

## As follows :

Street sweepings.....	\$368 50
Labor and materials.....	363 08
Manure from barn.....	51 25
Pasturage.....	12 00
Tools.....	6 00
Chopping blocks.....	5 00
Old cart body.....	4 00
	<u>\$809 83</u>

The expenditures on account of sidewalks and curbing, from April 1 to June 30, 1889, inclusive, amounted to . . . . . \$9,791 71

As follows :

Granite curbing.....	\$9,146 23
Concreting sidewalks.....	645 48
	<hr/>
	\$9,791 71

Curbing bills deposited with the city treasurer for collection, from April 1 to June 30, 1889, inclusive, amounted to . . . . . \$490 38

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, and amounting to . . . \$10,855 27

JOHN A. COLEMAN,

*Commissioner.*



1889.]

CITY DOCUMENT.

[No. 25.]

TWENTY-SEVENTH  
QUARTERLY REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1889.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
27 Custom House Street.  
1889.



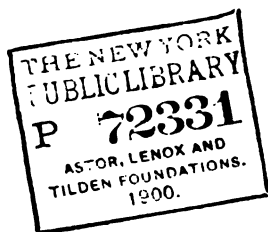
**TWENTY-SEVENTH**  
**QUARTERLY REPORT**  
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**QUARTER ENDING SEPTEMBER 30, 1889.**



**The Providence Press:**  
**SNOW & FARNHAM, CITY PRINTERS,**  
**37 Custom House Street.**  
**1889.**



# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., October 1, 1889. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the twenty-seventh quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending September 30, 1889.

## WATER WORKS.

July 18th, the proposal of James H. Tower to build a foot-bridge at Fruit Hill reservoir, for the sum of \$264, was accepted and a contract subsequently executed.

August 10th, the offer of Bernard Bardeen to paint the Corliss engine house and engine at Pettaconset, for the sum of \$286, was accepted.

August 17th, an agreement was executed with the Board of State Charities and Corrections to supply the institutions at the State farm, in Cranston, with water, for five years, from June 21, 1889, for the sum of \$1,800 per annum, payable quarterly.

August 24th, an offer of Bernard Bardeen to paint the Worthington and Cornish engine houses, at Pettaconset, for the sum of \$556, was accepted.

September 6th, the proposal of John R. White & Son to furnish 100 tons of coal, egg size, 2,000 pounds to the ton, and 200 tons coal, stove size, 2,000 pounds to the ton, delivered at Hope pumping station, was accepted and a contract subsequently executed. Amount, \$1,535.

September 6th, an offer of David Duncan & Son, of New York, to furnish from 1,000 to 1,500 tons of 2,240 pounds Philadelphia and Reading pea coal, delivered on cars at Sockanosset station, for the sum of \$3.25 per ton, was accepted, the proposals for furnishing coal at Pettaconset station, received in response to advertisements, having been previously rejected.

The average daily consumption of water during the last quarter was 5,603,000 gallons.

Water pipes were laid during the quarter as follows:

12-INCH.

In Chalkstone and Pawtucket avenues.....	1,699.19 feet.
--	----------------

8-INCH.

In Frost street and Woodward road.....	397.48 feet.
--	--------------

6-INCH.

In Avon, Bergen, Burnett, Calais, Caroline, Daboll, Edith, Eighth, Friend, Gallup, Goddard, Hamill, Hudson, Matilda, Ninth, Ohio, Orchard, Pleasant, Powdermill, River, Second, Seventh, Tenth, Turner, West Exchange, White, Willow and Wood streets, Anthony, Belmont, Fairmount, Pavillion and Pomona avenues.....	7,587.02 feet
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Total.....	9,683.69 feet,
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or 1.834+ miles.

Statement of sizes and lengths of pipes laid since the commencement of the work:



491. Sept. 24, 1889, *Sears avenue, from Atwell's avenue, northerly.*  
 515. " " " *Bogman street, from end of pipe, easterly.*  
 516. " " " *Gillen street, from Charles street, easterly.*

During the quarter one hundred and seventy-one water meters were set, of which number ten were to replace other meters. The use of one meter was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{8}$ -in.	$\frac{1}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	2,997	590	144	43	6	.....	.....	3,780
Ball & Fitts, rotary.....	.....	.....	22	25	3	5	3	58
Crown.....	3,811	568	147	60	20	4	4	4,614
Fales, Jenks & Sons.....	7	3	1	.....	.....	.....	.....	11
Worthington.....	30	1	.....	.....	1	.....	1	33
	6,845	1,162	314	128	30	9	8	8,496

Six hundred and sixty-eight permits to do plumbing work were issued during the quarter.

One hundred and eighty-four applications for water were made during the quarter, making the total number, September 30, 1889, fifteen thousand six hundred and twenty-eight.

The number of new service stops opened during the quarter was one hundred and ninety-four.



The total number of service stops opened to September 30, 1889, inclusive, was fourteen thousand nine hundred and sixty-one. The number in actual use September 30, 1889, was fourteen thousand one hundred and forty-five.

The amount of bills approved on account of water works, from July 1 to September 30, 1889, inclusive, was

For construction and extension, . . . \$10,187 94

Classified as follows :

Fruit Hill reservoir, for construction.....	\$5,929 12
Fruit Hill reservoir, for sundries.....	29 04
Fruit Hill reservoir, for telephone line.....	23 70
Laying water pipes.....	2,260 53
Laying service pipes.....	900 12
Cast iron water pipes.....	304 43
Special castings.....	162 53
Wharf salaries.....	160 00
Labor on and carting water pipe.....	147 74
Barn expenses.....	111 68
Tools.....	65 18
Horses, wagons, harnesses, etc.....	51 11
Taps and stops.....	42 76
	<u>\$10,187 94</u>

For maintenance, . . . \$19,361 19

Classified as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$1,537 49
Cornish engine house.....	1,218 11
Corliss pumping engine and house.....	755 65
Sundries.....	752 38
Real estate.....	716 83
Engineers.....	625 00
Firemen.....	470 22
Superintendence.....	250 00
Lights.....	209 30
Care of grounds.....	165 37
Oil, waste and packing.....	114 87
Barn expenses.....	109 89
Amounts carried forward.....	<u>\$6,925 11</u>

Amount brought forward.....	\$6,925 11	
Labor on fuel.....	106 50	
Cornish pumping engine.....	57 36	
Worthington pumping engine.....	41 96	
	<u>          </u>	\$7,130 1

## SOCKANOSSET RESERVOIR.

Watchman.....	\$138 00	
Sundries.....	31 45	
	<u>          </u>	169 1

## HOPE PUMPING STATION.

Coal and wood.....	\$807 94	
Engineers.....	800 00	
Firemen.....	496 00	
Care of grounds.....	305 40	
Lights.....	93 52	
Sundries.....	52 99	
Oil, waste and packing.....	34 02	
Hope pumping engine, No. 2.....	19 32	
Hope pumping engine, No. 1.....	9 60	
	<u>          </u>	2,615 1

## HOPE RESERVOIR.

Watchman.....		36 1
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## PIPE LINE AND SERVICE STOPS.

Repairs.....	\$1,826 96	
Superintendence—salaries.....	625 00	
	<u>          </u>	2,451 1

## METER DEPARTMENT.

Water meters.....	\$2,465 67	
Setting and repairing meters.....	922 40	
	<u>          </u>	3,388 1

## MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,725 33	
Horses, wagons, harnesses, etc.....	301 15	
Sundries.....	149 91	
Analyses of water.....	96 30	
Telephone lines.....	90 58	
Public drinking fountains and troughs.....	11 80	
Pipe yard, office expenses.....	10 80	
Barn expenses.....	9 10	
	<u>          </u>	3,394 9
		<u>          </u>
		\$19,361 1

The amount of expenditures, from July 1 to September 30, 1889, inclusive, was . . . \$29,549 13

The total expenditures to September 30, 1889, inclusive, was . . . \$6,912,305 35

The *net* expenditure for construction and extension from July 1 to September 30, 1889, inclusive, was..... \$8,859 20

The *net* expenditure for construction and extension to September 30, 1889, inclusive, was..... 5,440,137 91

The *net* expenditure for maintenance from July 1 to September 30, 1889, inclusive, was..... 14,829 89

The *net* expenditure for maintenance to September 30, 1889, inclusive, was..... 901,714 21

Bills deposited with the city treasurer for collection from July 1 to September 30, 1889, inclusive, amounted to . . . \$39,358 45

As follows :

Water.....	\$33,834 61
Water meters.....	3,465 30
Setting and repairing water meters.....	1,062 25
Rent of real estate.....	373 11
Pasturage at Sockanosset.....	60 00
Grass from Hope reservoir.....	50 00
Permanently closing service stops.....	15 00
Penalties.....	8 00
Repairs to service pipes.....	2 00
Labor and materials, laying service pipes, etc.....	437 89
Cast iron water pipes.....	40 29
Manure from barn.....	10 00
	<hr/>
	\$39,358 45

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$42,537 22

As follows :

Water.....	\$36,663 18
Water meters.....	3,199 30
Setting and repairing water meters.....	1,054 48
Rent of real estate.....	260 52
	<hr/>
Amount carried forward.....	\$41,177 48

Amounts brought forward.....	\$41,177 48
Permanently closing service stops.....	15 00
Penalties.....	14 00
Repairs to service pipe.....	2 00
Cast iron water pipes.....	819 04
Labor and material, laying service pipes, etc.....	499 70
Manure from barn.....	10 00
	<u>\$42,537 22</u>

The amount of bills approved on account of water works for the fiscal year, ended September 30, 1889, was

For construction and extension, . . . \$110,701 96

Charged as follows :

Fruit Hill reservoir, for construction.....	\$61,885 56
Fruit Hill reservoir, main line to.....	2,021 20
Fruit Hill reservoir, for sundries.....	124 31
Fruit Hill reservoir, for telephone line.....	47 20
Fruit Hill reservoir, for road.....	41 85
Cast iron water pipe.....	17,479 51
Laying water pipe.....	8,954 97
Fire hydrants, boxes and covers.....	4,415 92
Laying service pipes.....	3,212 94
Stop valves.....	3,022 63
Service pipe.....	2,438 14
Special castings.....	2,428 08
Taps and stops.....	1,310 70
Rent of wharf and pipe yard.....	1,250 00
Labor on and carting pipe.....	625 42
Barn expenses.....	550 45
Wharf salaries.....	360 00
Horses, wagons, harnesses, etc.....	270 14
Tools.....	211 69
Dedication of Doyle statue—laborers' holiday.....	51 25
	<u>\$110,701 96</u>

For maintenance. . . . . \$75,430.98

Charged as follows :

#### PETTACONSET PUMPING STATION.

Coal and wood.....	\$7,891 84
Sundries.....	2,571 74
Engineers.....	2,500 00
Amount carried forward.....	<u>\$12,963 58</u>

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 11

Amount brought forward.....	\$12,963 58	
Firemen.....	2,102 10	
Engine house (Cornish).....	1,260 43	
Corliss pumping engine and house.....	1,124 30	
Superintendence.....	1,000 00	
Lights.....	852 50	
Real estate.....	848 23	
Oil, waste and packing.....	589 06	
Labor on fuel.....	489 98	
Care of grounds.....	421 49	
Barn expenses.....	246 27	
Cornish pumping engine.....	224 47	
Worthington pumping engine.....	116 29	
		<u>\$22,238 70</u>

## SOCKANOSSET RESERVOIR.

Watchman.....	\$547 50	
Sundries.....	265 06	
		<u>812 56</u>

## HOPE PUMPING STATION.

Engineers.....	\$3,200 00	
Firemen.....	1,692 00	
Care of grounds.....	935 36	
Coal and wood.....	807 94	
Lights.....	465 52	
Pumping engine No. 2.....	185 69	
Pumping engine No. 1.....	183 25	
Sundries.....	156 65	
Oil, waste and packing.....	136 58	
		<u>7,762 99</u>

## HOPE RESERVOIR.

Watchman.....	\$821 25	
Sundries.....	21 05	
		<u>842 30</u>

## PIPE LINE AND SERVICE STOPS.

Superintendence—salaries.....	\$2,475 00	
Repairs.....	4,770 94	
		<u>7,245 94</u>

## METER DEPARTMENT.

Water meters.....	\$9,977 78	
Setting and repairing meters.....	3,921 71	
		<u>13,899 49</u>
Amount carried forward.....		<u>\$52,801 98</u>

Amount brought forward..... \$52,801 96

#### MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$10,523 24	
Town of Cranston, tax.....	9,394 00	
Barn expenses.....	754 42	
Horses, wagons, harnesses, etc.....	727 83	
Analyses of water.....	383 40	
Sundries.....	275 81	
Telephone lines.....	189 85	
Pipe yard, office expenses.....	163 25	
Public drinking fountains and troughs.....	127 91	
Real estate at Pawtuxet.....	72 49	
Town of Lincoln, tax.....	16 80	
		<u>\$22,629 00</u>
		<u>\$75,430 96</u>

#### SEWERS.

During the quarter ending September 30, 1889, one hundred and sixty-nine permits were issued to drain layers: one hundred and eleven for new work, and fifty-eight for extension and repair of drains.

One drain-layer's license was issued during the quarter, making the total number twenty-six, all of which expire December 31, 1889.

August 29th, the offer of Manchester & Hudson to furnish 1,500,000 bricks, was accepted, the proposals received under advertisement having been rejected. A contract was subsequently executed. Amount, \$12,375.00.

July 30th, contracts for the construction of sewers, which have since been signed, were awarded as follows, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include cost of inspection and materials, or rock excavation.]

## TO FREDERICK E. SHAW.

No. of resolution. Date of approval.

171.	April 22, 1889,	<i>Barclay street, from end of sewer to Federal street,</i>	\$317 70
253.	May 21, “	<i>Francis street and Woods avenue,</i>	840 50
276.	June 13, “	<i>Gay street, from Robinson to Dudley,</i>	509 15
277.	“ 13, “	<i>Robinson street, from Prairie avenue to Gay street,</i>	1,195 44
288.	“ 20, “	<i>McKenna and Cross streets, from Whelden to West River,</i>	852 14
347.	July 8, “	<i>East street, from end of sewer northerly,</i>	225 20
364.	“ 9, “	<i>In Cove Promenade,</i>	2,968 75

September 18th, contracts for constructing sewers, which have since been signed, were awarded as follows, namely :

## TO FREDERICK E. SHAW.

No. of Resolution. Date of Approval.

382.	July 15, 1889,	<i>Almy and Gesler streets, from Broadway to Ridge street,</i>	\$1,776 30
383.	“ “ “	<i>Mallett street, from Bates to Olney,</i>	263 43
423.	Aug. 8, “	<i>Broadway and Tobey street, from Almy to Ridge,</i>	3,008 90
424.	“ “ “	<i>Grove street, from Almy to Tobey,</i>	806 80

No. of resolution. Date of approval.

425.	Aug. 8, 1889,	<i>Grove and Knight streets, and Atwell's avenue from Courtland to West Exchange, . . .</i>	\$3,834 70
426.	" " "	<i>Ring street, from Almy to Tobey, .</i>	744 20

## TO JOHN KEOGH.

366.	July 9, 1889,	<i>Congdon street, from 100 feet north of Halsey to Olney street,</i>	158 50
427.	Aug. 8, "	<i>Ring street, from Courtland to Knight,</i>	370 00

During the quarter, the construction of the following sewers was completed, namely :

No. of resolution. Date of approval.

Date of Completion.

171.	April 22, 1889,	<i>Barclay street, from end of sewer to Federal street.</i>	Aug. 23, 1889.
253.	May 21, "	<i>Francis street, from No. 58 to and through Woods avenue and Brownell street to Park street,</i>	Sept. 2, "
288.	June 20, "	<i>McKenna and Cross street, from Whelden to West River,</i>	Sept. 13, "



No. of resolution. Date of approval.

347. July 8, 1889, *East street, from end of sewer 120 feet northerly,* Aug. 17, 1889.

September 30th, work was in progress upon the following sewers, namely :

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street from Atwell's avenue to Tobey street.*
276. June 13, 1889. *Gay street, from Robinson to Dudley.*
277. " " " *Robinson street, from Gay to Prairie avenue.*
366. July 9, " *Congdon street, from 100 feet north of Halsey to Olney.*
383. " 15, " *Mallett street, from Bates to Olney.*

Work upon the following sewers, completing the list ordered by the City Council, had not commenced September 30, 1889, viz. :

No. of resolution. Date of approval.

364. July 9. 1889, *In Cove Promenade.*
382. " 15, " *Almy and Gesler streets, from Broadway to Ridge street.*
423. Aug. 8, " *Broadway and Tobey street, from Almy to Ridge.*
424. " " " *Grove street from Almy to Tobey.*
425. " " " *Grove and Knight streets, from Courtland to West Exchange.*
426. " " " *Ring street, from Almy to Tobey.*
427. " " " *Ring street, from Courtland to Knight.*

Bills approved on account of sewers from July 1 to September 30, 1889, inclusive, amounted to

For Construction, . . . . . \$20,242 21

Charged as follows :

Materials.....	\$5,134 56
Rent of wharf and pipe yard.....	625 00
Testing cement.....	170 25
Clerk's salaries.....	89 00
Sundries.....	16 28
Additional catch basins.....	35 14
Sewer in Barclay street, from end of sewer to Federal street.....	345 18
Sewer in Congdon street, from 100 feet north of Halsey to Olney.....	23 88
Sewer in Cove Promenade.....	79 50
Sewer in East street, from end of sewer northerly...	275 52
Sewer in Francis street and Woods avenue.....	865 86
Sewer in Gay street, from Robinson to Dudley.....	485 44
Sewer in Mallett street, from Olney to Bates.....	671 30
Sewer in McKenna and Cross streets.....	939 08
Sewer in Robinson street, from Gay to near Prairie avenue.....	201 81
Sewer in Valley street, Broadway and High street..	735 64
Sewer in West Exchange and Ridge streets.....	8,410 77
Contract reservations on completed sewers.....	1,138 09
	<hr/>
	\$20,242 21

For maintenance, . . . . . \$6,938 35

Charged as follows :

Cleaning basins and sewers.....	\$4,809 34
Repairing basins and sewers.....	446 28
Cleaning and repairing old drains.....	273 76
Barn expenses.....	442 88
Salary—superintendent.....	350 00
Inspection of connections.....	250 00
Horses, wagons, harnesses, etc.....	217 89
Tools.....	63 60
Cleaning private connections.....	62 05
Filling cisterns, etc.....	13 95
Sundries.....	5 60
Telephone lines.....	3 00
	<hr/>
	\$6,938 35

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 17

The net expenditure for construction of sewers to September 30, 1889, inclusive, was.....	\$1,960,728 21
The net expenditure for maintenance of sewers to September 30, 1889, inclusive, was.....	292,776 26

Bills deposited with the city treasurer for collection, from July 1 to September 30, 1889, inclusive, amounted to . . . . . \$202 90

As follows :

Cleaning private connections.....	\$97 80
Filling cisterns, etc.....	12 00
Private drains laid in streets.....	34 25
Testing cement.....	33 20
Materials.....	26 65
	<hr/>
	\$202 90

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$265 47

As follows :

Cleaning private connections.....	\$87 45
Atlantic Mills for sewer pipe and cement.....	28 03
Filling cisterns, etc.....	10 00
Providence Cable Tramway Company altering manhole.....	4 40
Union Railroad Company, repairing old drain.....	1 20
Private drains laid in streets.....	70 00
Materials.....	62 99
Testing cement.....	1 40
	<hr/>
	\$265 47

The amount of bills approved on account of sewers for the fiscal year ended September 30, 1889, inclusive, was

For Construction, . . . . . \$72,947

Charged as follows :

Materials.....	\$21,603 11
Rent of wharf and pipe yard.....	1,250 00
Testing cement.....	577 50
Clerk's salary.....	339 00
Sundries.....	60 21
Additional catch basins.....	101 84
Sewer in Arthur avenue, from Africa street to Atwell's avenue.....	253 86
Sewer in Barclay street, from end of sewer to Federal street.....	345 18
Sewer in Congdon street, from 100 feet north of Halsey to Olney.....	23 88
Sewer in Cove Promenade.....	79 50
Sewer in Creighton street, from Prospect to Brown.....	1,630 06
Sewer in Cushing street, from Thayer to Prospect..	603 26
Sewer in East street, from end of sewer northerly..	275 52
Sewer in Francis street and Woods avenue.....	865 86
Sewer in Gay street, from Robinson to Dudley.....	485 44
Sewer in Hoyle street, from its angle to Fenner....	490 47
Sewer in Mallett street, from Olney to Bates.....	671 30
Sewer in McKenna and Cross streets.....	939 06
Sewer in Olney street, from Brenton avenue to Thayer street.....	2,689 34
Sewer in Point street, from Eddy to end of sewer..	621 33
Sewer in Robinson street, from Gay to near Prairie avenue.....	201 81
Sewer in Valley street, Broadway and High.....	21,140 78
Sewer in Wesleyan avenue, Broad and Taylor streets*	2,708 97
Sewer in West Exchange street, from Brayton avenue to Cove street.....	3,672 92
Sewer in West Exchange and Ridge streets.....	8,979 10
Contract reservations on completed sewers.....	2,338 00
	<u>\$72,947 32</u>

For maintenance, . . . . . \$24,277

Charged as follows :

Cleaning basins and sewers.....	\$14,562 85
Repairing basins and sewers.....	1,943 33
Cleaning and repairing old drains.....	1,306 09
Barn expenses.....	1,534 90
Superintendent's salary.....	1,408 00
Amount carried forward.....	<u>\$20,747 17</u>

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Amount brought forward.....	\$20,747 17
Horses, wagons, harnesses, etc.....	1,357 43
Inspection of connections.....	1,000 00
Tools.....	686 08
Cleaning private connections.....	229 10
Filling cisterns, etc.....	105 48
Sundries.....	81 47
Dedication of Doyle statue—laborers' holiday.....	22 64
Telephone lines.....	48 50
	<hr/>
	\$24,277 87

### HIGHWAYS.

Seven permits to open streets were issued during the quarter.

August 7th, the proposal of Joseph H. West to furnish 5,000 lineal feet of straight curbing, and 2,000 lineal feet of 14-inch cross-walk stone, was accepted, and a contract was subsequently executed. Amount, \$3,720.00.

August 7th, the proposal of John Garvey, to furnish five thousand lineal feet of straight curbing was accepted, and a contract was subsequently executed. Amount, \$3,250.00.

August 21st, the offer of Frederick E. Shaw to work Robinson and Gay streets to grade for the sum of four hundred and ninety dollars, was accepted.

September 6th, the proposal of the Providence Coal Company to furnish coal as required for the highway department for six months, was accepted, and a contract executed.

September 2d, a statement of the cost of concreting sidewalks on west side of Benefit street, between Short Alley and North Main street, with ten per cent. added to cover cost of assessing and collecting, was certified to the assessors of taxes.

Uncollected curbing bills, returned by the city treasurer, were certified to the assessors of taxes August 13, 1889, amounting to \$19,347.60.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Date of order.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—~~some~~  
work has been done under this order.

TO BE FILLED.

July 17, 1884, *Pond opposite works of the Nicholson Fire  
Company*:—a large portion of the pond has  
been filled.

TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's  
avenue to Cove street; also sewer in  
said street*:—work being done under  
contract.

274. June 15, 1889, *Smith street, from Ruggles to the  
city line*:—about one-half done.

TO BE BROUGHT TO GRADE.

May 31, 1889, *Robinson street, from Prairie avenue to  
Gay street*:—nearly completed.

The following work ordered by the board of aldermen  
and city council had not commenced September 30, 1889,  
namely :

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 17, 1886, *Chalkstone avenue, from Academy to River.*

Nov. 18, " *Ridge street, from west line of Tobey to  
Atwell's avenue.*

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

## Date of order.

- Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue*:—bank wall well along; considerable grading has been done, some curbing set, and the roadway between Cove street and Brayton avenue built.
- Jan. 19, 1888, *Westfield street, from Harrison to Dexter*:—cross-walks to be laid.
- June 21, 1888, *Vandewater street, from Douglas avenue to Branch avenue*:—about one-half of the work has been done.
- “ “ “ *Almy street, from Penn to Gesler*:—curbing set and gutters paved; roadway to be built.
- “ “ “ *North Davis street, from Douglas avenue to old city line*:—nearly completed.
- Nov. 22, “ *Angell street, from Butler to Wayland avenue*:—finished except concreting gutters.
- “ “ “ *Taber avenue, from 100 feet North of Humboldt to north line of Irving*:—finished except rolling and cross-walks to be laid.
- Dec. 20, “ *Oxford street, from Plain to Miner*:—cross-walk to be laid and gutters to be concreted.
- Feb. 21, 1889, *Florence street, from Amherst to Manton avenue*:—finished except rolling and cross-walk.

## TO TAKE POSSESSION OF.

- April 13, “ *Ocean street, from Thurber's avenue to Richardson street*:—a considerable portion of the grading has been done.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Date of order.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE FILLED.

July 17, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street*:—work being done under contract.

274. June 13, 1889, *Smith street, from Ruggles to the city line*:—about one-half done.

TO BE BROUGHT TO GRADE.

May 31, 1889, *Robinson street, from Prairie avenue to Gay street*:—nearly completed.

The following work ordered by the board of aldermen and city council had not commenced September 30, 1889, namely :

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 17, 1886, *Chalkstone avenue, from Academy to River.*

Nov. 18, " *Ridge street, from west line of Tobey to Atwell's avenue.*



## Date of order.

- Nov. 17, 1887, *Daboll street, from Updike to Public.*
- Dec. 15, " *Transit street, from Ives to Gano.*
- Mar. 15, 1888, *Howe street, from Fenner avenue 450 feet easterly.*
- April 19, " *Lilac street, from Brattle to Salem.*
- " " " *Pomona avenue, from Academy avenue to Pemberton street.*
- June 21, " *Bates street, from Mallett to Riley.*
- " " " *Riley street, from Bates to Lippitt.*
- Sept. 20, " *Darling street, from McKenna to West River.*
- " " " *Halsey street, from Brown to Prospect.*
- Oct. 18, " *Erastus street, from Amherst to Atwell's avenue.*
- " " " *Jackson avenue; from Potter's avenue to Beckwith.*
- Dec. 20, " *Atlantic street, from Broad to Niagara.*
- " " " *Adelaide avenue, from Niagara to Melrose street.*
- " " " *Colwell street, from Plain to Prairie avenue.*
- " " " *Dahlia street, from Cranston to Brattle.*
- " " " *Franklin avenue, from Chalkstone avenue to Vale street.*
- " " " *Roanoke street, from end of curb to Mt. Pleasant avenue.*
- April 18, 1889, *Dahlia street, from Brattle to Salem.*
- " " " *Updike street, from Daboll to Public and Peace to Moore.*
- May 16, " *Covell street, from Amherst to Atwell's avenue.*
- " " " *Tanner street, from Pearl to Dudley.*
- June 20, " *Admiral street, from Douglas avenue to Mowry street.*
- " " " *Congress street, from Broad to Melrose.*
- " " " *Grove street, from Knight to Vinton.*

## Date of order.

- Sept. 19, 1889, *Farthing street, from Bridge to South Water.*  
 “ “ “ *Fremont street, from Ives to Gano.*  
 “ “ “ *Ruggles street, from Chalkstone avenue to Smith.*  
 “ “ “ *Butler avenue, from Blackstone Park to President avenue.*

## TO BE BROUGHT TO GRADE.

## No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 “ 13, 1887, *Transit street, from Ives to Gano.*  
 Apr. 13, 1889, *Eddy street, from railroad bridge to Broad street.*  
 285. June 14, “ *Lot on Jackson avenue belonging to Rachel Paine.*  
 “ 20, “ *Multon avenue near junction of Chalkstone avenue.*  
 Aug. 1, “ *Bogman street, from Plain to Hilton.*  
 Sept. 19, “ *Peace and Plenty streets.*  
 “ “ “ *Olney street, from East avenue easterly and northerly.*

## GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

## Date of order.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain street.*

## TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.

- May 2, 1889, *Pontiac street, from Reservoir avenue to city line.*  
 June 6, “ *Farthing street, from Bridge to South Water.*

TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*  
 269. May 21, " *Greenwich street, from near Sprague,  
 to Public.*

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
 PUBLIC TRAVEL.

June 20, 1889. *Grove street, from Knight to Vinton.*

SIDEWALKS TO BE CONCRETED.

510. Sept. 24, 1889, *Candace street, adjoining school  
 estate.*  
 511. " " " *Junction Smith and Orms streets,  
 adjoining fire station.*  
 527. " " " *Harrison street, adjoining fire sta-  
 tion, and driveway to be put in.*

TO BE REPAIRED AT EXPENSE OF CITY.

June 20, 1889, *Villa avenue, from Arlington to Taber.*

BANK WALL TO BE BUILT.

532. Sept. 24, 1889, *West Exchange street, about 500  
 feet.*

Bills approved on account of highways from  
 July 1 to September 30, 1889, inclusive,  
 amounted to :

Regular appropriation.....	\$34,495 56	
Special appropriation under chapter XCI.....	54,281 52	
		<hr/>
		\$88,777 08

## Classified as follows :

Cleaning streets.....	\$9,024 38
Tools, implements, etc.....	7,410 34
Repairs on unpaved streets.....	6,250 86
Crushed stone—material and labor.....	3,289 21
Stone—paving and crosswalk.....	2,167 81
Barn expenses.....	1,693 73
Salaries—superintendent and clerks.....	860 14
Repairs on paved streets.....	657 34
Repairs on stone crushers.....	401 65
Blacksmith and wheelwright shop.....	277 41
Steam rollers—repairs and supplies.....	202 49
Sundries.....	180 39
Horses, wagons, harnesses, etc.....	121 49
Labor on materials.....	65 88
Watchman at city yard.....	65 25
Fencing streets.....	21 34
Telephone lines.....	13 29
Screening gravel.....	10 67
Office expenses, city yard.....	60

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 \$32,714 47

 NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
 SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Almy street</i> , from Penn to Gesler.....	\$27 38
<i>Angell street</i> , from Butler avenue to Wayland.....	1,339 47
<i>Bates street</i> , from Mallett to Riley.....	126 60
<i>Bellevue avenue</i> , from Cranston street to Long Pond.....	15 32
<i>Chalkstone avenue</i> , from Academy to River.....	14 41
<i>Colwell street</i> , from Plain to Prairie avenue.....	122 40
<i>Conduit street</i> , from Stewart to Summer.....	623 30
<i>Dye street</i> , from Broadway to Atwell's avenue.....	9 11
<i>Florence street</i> , from Manton avenue to Amherst...	2,803 24
<i>Mathewson street</i> , from Sabin to Cove.....	299 85
<i>Meador street</i> , from Almy to Harkness.....	193 26
<i>Meador street</i> , from Harkness to Tobey.....	73 97
<i>North Davis street</i> , from Douglas avenue to old city line.....	296 22
<i>Oxford street</i> , from Plain to Miner.....	1,898 39
<i>Pawtucket avenue</i> , from Cemetery street to city line.....	16,468 61
<i>Perry street</i> , from High to Broadway.....	48 83
<i>Plain street</i> , adjoining Hayward Park.....	82 81
<i>Riley street</i> , from Bates to Lippitt.....	53 54
<i>Roanoke street</i> , from end of curb to Mount Pleasant avenue.....	1 50
<i>Taber avenue</i> , from near Humboldt to Irving.....	1,805 14
<i>West Exchange street</i> , from Cove to Ridge.....	18,990 20
<i>Westfield street</i> , from Harrison to Dexter.....	740 30

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 Amounts carried forward..... \$46,033 85

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 \$32,714 47

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 27

Amounts brought forward..... \$46,033 85      \$32,714 47

## TO BE BUILT.

*Smith street*, from Ruggles street to city line..... 8,768 39

## TAKE POSSESSION OF.

*Ocean street*, from Thurber's avenue to Richardson street..... 404 46

*Pontiac street*, from Reservoir avenue to city line.. 111 30

*Swan street*, from Plain to Ocean..... 108 03

## TO BE REPAIRED.

*Hay and Pine streets*, northwest corner..... 334 14

## PUT IN GOOD CONDITION.

*Lockwood street*, from Pine to Plain..... 302 44

56,062 61

\$88,777 08

Bills deposited with the city treasurer for collection, from July 1 to September 30, 1889, inclusive, amounted to . . . . . \$564 89

## As follows :

Labor and materials.....	\$362 89
Street sweepings.....	145 00
Manure from barn.....	53 75
Tools.....	2 25
Chopping blocks.....	1 00
	<hr/>
	\$564 89

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$418 34

## As follows :

Street sweepings.....	\$180 00
Labor and materials.....	166 34
Manure from barn.....	53 75
Chopping blocks.....	11 00
Old wheels.....	5 00
Tools.....	2 25
	<hr/>
	\$418 34

The expenditures on account of sidewalks and curbing, from July 1 to September 30, 1889, inclusive, amounted to . . . \$7,664 47

As follows :

Granite curbing.....	\$7,645 78
Concreting sidewalks.....	18 09
	<u>\$7,664 47</u>

Curbing bills deposited with the city treasurer for collection, from July 1 to September 30, 1889, inclusive, amounted to . . . \$399 55

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, and amounting to . . . \$2,435 43

The amount of bills approved on account of highways for the fiscal year ended September 30, 1889, was :

Regular appropriation.....	\$212,861 95
Special appropriation under chapter xci.....	60,813 19
	<u>\$273,675 14</u>

Charged as follows :

Repairs on unpaved streets.....	\$43,694 89
Cleaning streets.....	32,069 84
Crushed stone—material and labor.....	25,385 50
Stone—paving and crosswalks.....	17,457 19
Tools, implements, etc.....	10,071 40
Barn expenses.....	7,431 82
Repairs on paved streets.....	7,277 55
Screening gravel.....	6,813 61
Salaries—Superintendent and clerks.....	5,067 14
Blacksmith and wheelwright shop.....	3,788 39
Labor on materials.....	2,885 57
Horses, wagons, harnesses, etc.....	2,133 82
Steam rollers—repairs and supplies.....	1,962 72
Repairs on stone crushers.....	1,840 51
Watchman at city yard.....	663 75
Dedication of Doyle statue—laborers' holiday.....	567 97
Sundries.....	498 17
Removing snow and ice from street.....	287 06
Fencing streets, material and labor.....	222 08
Repairing sidewalks—public buildings.....	107 36

Amount carried forward.....\$170,246 34

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 29

Amount brought forward.....	\$170,246 34	
Office expenses, city yard.....	68 91	
Telephone lines.....	35 10	
		\$170,350 35

## NEW WORK—BUILDING AND RE-BUILDING STREETS, SIDE-WALKS CURBED AND GUTTERS PAVED.

Almy street, from Penn to Gesler.....	\$501 38
Amy street, from Ives to Gano.....	1,399 34
Angell street, from Butler avenue to Wayland.....	1,400 77
Austin street, from Public to Potter's avenue.....	831 15
Bates street, from Mallett to Riley.....	126 60
Bellevue avenue, from Cranston street to Long Pond..	2,104 77
Bernon street, from Candace to Nolan.....	858 74
Bogman street, from Prairie avenue to Hilton street...	657 44
Capron street, from Julian to Chaffee.....	1,137 58
Chalkstone avenue, from Academy to River.....	14 41
Colwell street, from Plain to Prairie avenue.....	122 40
Conduit street, from Stewart to Summer.....	623 30
Daboll street, from Updike to Public.....	4 30
Dye street, from Broadway to Atwell's avenue.....	218 22
Florence street, from Manton avenue to Amherst street.	2,803 24
Harold street, from Valley to Chalkstone avenue.....	2,175 51
Hamilton street, from Potter's avenue to Adelaide....	4,044 22
Hendrick street, from Academy avenue to Mount Pleasant avenue.....	4,493 21
Howe street, from Fenner avenue 450 feet easterly....	40 02
Lilac street, from Candace to Brattle.....	1,367 79
Linden street, from Friendship to West Clifford.....	598 71
Mathewson street, from Sabin to Cove.....	1,209 22
Meador street, from Almy to Harkness.....	964 35
Meador street, from Harkness to Tobey.....	360 95
North Davis street, from Douglas avenue to old city line	296 22
Oxford street, from Plain to Miner.....	1,898 39
Pawtucket avenue, from Cemetery street to city line..	19,857 22
Plain street, from Public to Potter's avenue.....	935 02
Plain street, adjoining Hayward Park.....	832 73
Perry street, from High to Broadway.....	1,236 19
Portland street, from Friendship to Providence.....	831 07
Potter's avenue, from Broad street to Ocean.....	3,497 09
Prairie avenue, from Thurber's to Broad street.....	26 45
Ridge street, from Tobey to Atwell's avenue.....	89 00
Riley street, from Bates to Lippitt.....	53 54
Roanoke street, from end of curb to Mount Pleasant ave.	1,745 28
Sayles street, from Miner to Prairie avenue.....	822 55
Sayles street, from Ocean to Plain.....	989 01
Taber avenue, from near Humboldt to Irving.....	1,850 49
Vandewater street, from Branch avenue to Douglas...	308 58
West Exchange street, from Cove to Atwell's avenue.	19,206 39
Westfield street, from Harrison to Dexter.....	740 30

83,273 14

Amount carried forward.....

\$253,623 49

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Amount brought forward..... \$253,623 4

**BUILT.**

Luther street, from Durfee to Division.....	\$899 06
Ocean street, from Public to Potter's avenue.....	3,399 37
Smith street, from Ruggles street to city line.....	8,768 39

**CULVERTS BUILT.**

Blackstone street.....	199 18
Humboldt avenue.....	181 06

**TAKE POSSESSION OF.**

Ocean street, from Thurber's avenue to Richardson street.....	570 18
Pontiac street, from Reservoir avenue to city line..	111 30
Swan street, from Plain to Ocean.....	108 03

**REPAIRED.**

Hay and Pine streets, northwest corner.....	334 14
Lockwood street, from Pine to Plain.....	302 44
Rachel street, from Thurber's avenue to Autumn street.....	26 58

**LOTS FILLED WITH EARTH.**

Patrick Hannah, Atwell's avenue.....	62 60
John C. Schwab and Conrad Schattle, Jackson avenue, corner of Balch street.....	269 60

**BROUGHT TO GRADE.**

Chalkstone avenue, from River to Academy.....	3,174 43
---	----------

**PUT IN CONDITION SAFE FOR PUBLIC TRAVEL.**

Bates street, from Carrington avenue to Abbott street.....	441 67
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**GRADED AND APPROACHES CONSTRUCTED.**

Manton avenue, front of fire station.....	326 90
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**SIDEWALKS CONCRETED AND APPROACHES CONSTRUCTED.**

Burnett and Public streets, front of fire station....	87 04
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**SIDEWALKS CURBED AND CONCRETED.**

Sayles street, corner of Plain; and Harriet street, corner of Sayles, adjoining school estates.....	229 90
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Amounts carried forward.....	\$19,491 87	\$253,623 4
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**REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 31**

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**Amounts brought forward.....** \$19,491 87

**SIDEWALKS CONCRETED.**

**Capron street, opposite police station.....** 7 64

**PAVED WITH COBBLE STONES.**

**Bark street, from Mill street northerly.....** 191 48

**WALL BUILT UP OVER CISTERN.**

<b>Gay street.....</b>	<b>360 66</b>	
	<hr/>	<hr/>
		<b>20,051 65</b>
		<hr/>
		<b>\$273,675 14</b>

**JOHN A. COLEMAN,**  
*Commissioner.*





1890.]

CITY DOCUMENT.

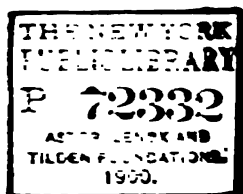
[No. 13.]

**TWENTY-EIGHTH**  
**QUARTERLY REPORT**  
OF THE  
**DEPARTMENT OF PUBLIC WORKS**  
OF THE  
CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1889.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
37 Custom House Street.  
1890.



# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., January 1, 1890. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the twenty-eighth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending December 31, 1890.

Referring to the work performed during the past season I have to report that when the duties of the Commission of Public Works were assumed, February 11, 1889, the books of the office showed an unexpended balance of \$94,665.84.

This money was to be expended in the maintenance of over one hundred and sixty-one miles of streets, to keep them, as the Statute directs, "safe and convenient for travelers with their teams, carts and carriages, at all seasons of the year."

The Commissioner also found orders from the city council for the construction of thirty-five streets, the cost of which for labor, material and attendant expenses would amount to upwards of \$100,000. A number of streets left in process of construction in 1888 were to be finished when work was resumed at the opening of the current season.

Large supplies of material necessary for the work were to be purchased.

Upon an examination of the streets of the city it was found that they consisted of two classes, paved and unpaved roadways. The paved may be divided into three classes: first, block paving laid upon concrete foundation, with joints filled with pea gravel and coal tar; second, block paving laid upon sand foundation; and third, cobble stone paving. The pavements laid in Westminster street, Market square and a portion of other streets, are considered models of the paving art; and much has been written in other parts of the country concerning them. After ten years use the surface of Westminster street is as even as when the paving was first laid, barring the natural wear of the blocks. A large amount of block paving with only sand foundation, exists in other streets, most of which is in excellent condition. The cobble paving has been laid for many years; and while in some streets it is in good order, the fact that the stones have become much worn by long use renders necessary extensive annual repairs.

The unpaved streets may also be divided into three classes, viz.: macadamized roadways built upon heavy stone foundations; roadways constructed of a layer of about six inches of road metal upon sand foundation; and roadways built by simply turnpiking them with their own material.

An examination of the unpaved streets revealed many excellent roads of recent construction, but a large proportion of the older roadways showed imperative need of immediate and extensive repairs.

The roads were of bad form, highly crowned, with deep concave gutters, the slope of which permits only the centre of the streets to be used for vehicles, by reason of the tipping of carriages at sharp angles at the sides of the roads.

Most of these gutters were constructed prior to the construction of the present system of sewers, and were so built for the purpose of carrying off large quantities of surface water.

At least twenty-five per cent. of the surface of this form of roadway is comparatively useless for teams.

Many roads were so badly worn away, that man-hole covers projected as dangerous obstructions. In other roads depressions existed around the man-holes, caused by excessive accumulation of material upon the roadway, in years of patching and repairing.

These defects rendered the city liable to suits for damages in case of accident, an instance having already occurred.

Many old and prominent thoroughfares had been neglected for years, although they were in daily use for some of the heaviest traffic of the city. Curbstones were crushed out of line, cobble stone paving had sunk, and complaints of damage to falling horses were frequently received by the department, occasioned by the condition of the streets. These streets, moreover, while inconvenient and dangerous, presented an appearance of neglect and unthrift, which not only depressed the property in the immediate vicinity, but, as will scarcely be disputed, tended to produce the feeling of a run-down city, an impression which, it will be admitted, cannot too speedily be removed by those having the welfare of the city at heart.

Before the frost was out of the ground, steps were taken to render the streets temporarily safe until the weather would admit of thorough repairs; and men and teams were set at work to fill dangerous depressions in the streets all over the city, and that system has continued until the present time.

At the termination of the cold weather, all the streets of the city were thoroughly cleaned and swept three weeks



earlier than usual, and the street-cleaning gangs were organized for the season.

Immediately after the cleaning of the city, the season being unusually early, advantage was taken of the fact, and regular highway work was commenced. This consisted of repairing the old, and the building of new, streets, and this work was pushed as rapidly as possible, consistent with economy and thorough work, up to the close of the season.

A synopsis of the work done may be tabulated somewhat as follows :

New streets.....	23,910 lineal feet, or between 4 and 5 miles.
One new street not curbed.....	5,500 lineal feet, or over 1 mile.
Re-surfaced streets.....	46,475 lineal feet, or nearly 9 miles.
Paved streets repaired.....	14,800 lineal feet, or between 2 and 3 miles.
Curbing set.....	41,498 lineal feet, or 7.859 miles.
Grading to the amount of about.....	10,000 lineal feet, or nearly 2 miles.

The foregoing synopsis of work done does not include the many new crosswalks built and old ones repaired, to which may be properly added the asphalt concreting of the streets surrounding the Post Office, and of Eddy street. Attention is also called to the improved condition of the approach to the Boston and Providence Railroad depot.

Attention is called to the fact regarding the resurfacing of streets, that the policy adopted by the department has been that of thoroughness. Streets found in an unsafe or seriously damaged condition, have been thoroughly rebuilt or repaired. What is meant by this is, that instead of patching the streets in such manner as to call for constant resurfacing or repairing, the department has made these improvements complete as far as may be.

In other words, curbstones were reset and gutters repaved in modern form; the streets cut down to normal grade, and in every particular made as good as new, under the belief that this is true economy, and the only correct

method by which the streets can be thoroughly and economically kept in repair.

From what has been done this year in the rejuvenation of old thoroughfares, and the observed effect produced upon the people in giving them new heart and interest, and increasing their belief that the authorities really have their interest at heart, it would seem that the whole highway appropriation might profitably be devoted to the reparation of existing streets, rather than to the extension of new streets in the suburbs. When it is remembered that there are nearly one hundred and seventy miles of streets in the city to be cared for, it seems obvious that not only the whole of this appropriation should be spent in this manner, but the amount of money for this purpose, for a few years, might well be increased in order to make an extensive and vigorous change, to improve property, and stimulate the spirit of enterprise which at the present time seems rapidly awaking towards all new projects for the city's good. At the same time that the older streets are being repaired, it is obviously proper that a reasonable amount of extension of new streets should go on. More than \$100,000 worth of new streets are ordered ahead at the present time; and at nearly every session of the council this list is increased, until it is a hopeless task to undertake to perform more than a fraction of this work in connection with the ordinary reparations of old streets. It would seem apparent, that if these new streets are wanted immediately, money should be hired or otherwise raised for that purpose.

#### DORRANCE STREET.

A strong desire has been expressed to have Dorrance street south of Westminster brought to the proper grade and paved with granite blocks. This street is one of the most conspicuous in the city. The paving is bad in places,

and in heavy rains it is flooded with water near Weybosset street, sometimes to the depth of several inches, over the crosswalks. In icy weather it is dangerous for horses south of Weybosset street, on account of the sloping surfaces of the street. The Narragansett Hotel is one of the finest in the country, and the pride of our citizens, and reflects the highest credit upon its projectors. Its surroundings ought not to be allowed to be a constant source of discomfiture and annoyance, amounting almost to a public nuisance. Visitors, moreover, emerging from this hotel are confronted with a street, the bad appearance of which is in striking contrast with the hotel itself. This condition of Dorrance street has created strong criticism of the municipal authorities. No improvement of the old highways would go further in demonstrating that such criticism against the public spirit and enterprise of Providence has no foundation in fact.

#### DISCIPLINE OF DEPARTMENT.

In regard to the highway work, the effort of this department has been to maintain an effective discipline, and to eliminate from the ranks of workers all inefficient men; and the department has been kept entirely free from all political influence. In other words, the key note has been, the most work for the money paid; and the effect of that change from old methods has been most beneficial, not only in the highway department, but in all branches under the direction of the department of public works.

#### STONE CRUSHING MACHINERY.

A large reduction of expenses in the highway department has been effected through the new stone crushing machinery. The old machines were costing nearly \$2,000 a year for repairs; and constant interruptions from break-downs

entailed a heavy loss. The old machines together crushed about one hundred and fifty tons per day. The new machine purchased during the year is now crushing far more than both of the old machines together, (about two hundred tons in nine hours), and at a largely reduced expense; and when the proper feeding apparatus is applied to it will readily produce three hundred tons of crushed stone per day.

### STREET WATERING.

There should be some enactment with regard to the watering of streets. At present it is done by private contractors, and the streets are badly over-watered; and while being thoroughly disagreeable on account of mud, the streets are rapidly worn out by the process. Where macadamized streets, over which there is much driving, are not watered, the dust becomes a nuisance; but in addition to that, the top dressing of the street is rapidly blown away, and the street soon requires extensive repairs. A great deal of money is wasted upon our streets in the repairs necessitated by lack of watering. As a measure of maintenance, suitable watering is one of the best. To meet the always difficult street watering problem, it has been proposed in some other cities that when three-fourths of the people along a given street will sign a request for watering, the city shall perform the work upon the entire street, charging a certain small sum per month only to cover the cost, and charging the amount in the water or other taxes to all the individuals along the route. This appears to be an excellent solution of the problem.

### DEFECTIVE SIDEWALKS.

There is widespread complaint concerning the defective condition of the sidewalks of the city; but before any marked improvement can be hoped for, some active legislation will

be required. As the case now stands the department of public works is helpless in the matter of repairing sidewalks or compelling owners to repair them. Each individual case must be referred to the city council and voted upon, after which a certain notice must be given to the parties, and if they then refuse or neglect to repair, each individual case must be again voted upon by the city council, and the commissioner of public works then directed to make the repairs, and charge them in with the taxes of the delinquent individual. This process requires several months, and is so complicated as to be utterly inefficient.

#### STREET OBSTRUCTIONS.

Another topic connected with the highways : Active means should be taken in the narrow streets of Providence to keep them clear from obstruction by standing teams. Westminster street is a case in point. Occupied in the centre by a continuous stream of horse cars, and, during the busiest portions of the day, occupied upon each side of the horse cars by a long line of carriages standing at the curbstones, the street has become well nigh impassable. Pine street is another example of flagrant abuse, where frequently both sides of the lower part of the street are lined with teams waiting for jobs, and in many instances not only has there been a line of teams upon each side of the street, but *two* lines upon *one* side and one upon the other, until not only has Pine street been blocked, but frequently the side streets running into it. What is true of these two streets is true of many others.

There seems to be doubt in the minds of some of the authorities as to whether they can move teams which are standing at sidewalks, and there should be some effective legislation to correct such abuse, if the streets are to be kept clear.

### SABIN STREET CROSSING.

The attention of the council is called to the unreasonable interruption of public travel by the railroads at the Sabin street crossing, caused not only by the legitimate passage of trains, but by making up both freight and passenger trains across that heavily traveled highway. A collection ranging from twenty and not unfrequently to sixty teams at a time, may be seen many times per day, waiting the raising of the gates while trains are being made up. Delays of fifteen minutes and upwards are of not only daily occurrence, but many times a day. A large percentage of this delay might be prevented if the city would place suitable officers at the crossing with authority to enforce proper regulations. At certain intervals during train manipulations other than the passage of regular trains, the railroad service could be checked a given number of seconds to allow assembled teams to pass, and the gates then closed and the service resumed. In other words the railroads should share the loss of time with the public. As the case now stands the entire loss and vexation rest upon the public.

### CAR TRACKS, WAGON TIRES, ETC.

There are two elements which in large measure prevent the maintenance of good macademized roadways in Providence. These are car tracks, and narrow wagon tires.

It is useless to expect to maintain good macademized road-beds upon streets of ordinary width which have car tracks running through the same. In streets with no car tracks, all parts of properly shaped roadways may be traversed by vehicles, and the wear is distributed over the whole surface. Such streets will remain a long time in good condition.

In streets having car tracks, the wagon travel is necessarily confined to the narrow space on each side of the tracks, and the surface of the limited traveled space is soon destroyed.

The repairs upon a macademized street with tracks are increased at least three hundred per cent. over roads without tracks. Take a case in point: Tockwotton street has been repaired twice during the past year, where, under ordinary circumstances, the street should have lasted two or three years. And this is true of a portion of North Main, Greenwich and many other streets. The only remedy for streets of this class is paving.

Another rapid destroyer of American roadways is the vicious system of narrow tires for heavy teams, which exists in this country. It must be obvious that a heavy load upon very narrow tires must cut the road. This fact is recognized in France and elsewhere, and all teams carrying heavy weights have the width of their tires established by law. In consequence of this sensible system, the roads of the city of Paris are kept in admirable condition. Tires ranging up to six inches and more in width, are common upon heavy teams in that city, and not only are the roads maintained in astonishingly fine condition, but the weights which a horse may draw would likewise astonish those accustomed to the obnoxious American system of narrow tires.

In the city of Providence there are teams commonly passing over new and finely made roads, with four, five and as high as eight tons upon them, with tires from two and a half to less than four inches in width, an abuse that would be tolerated in no well ordered European city.

In consequence of this practice the taxpayers of the city of Providence are subjected to the enormous cost of repeatedly re-making these roads, where the expense would probably be not one-half if the width of tires were regulated by law, as it is in the countries mentioned. The principle is so simple as to scarcely require discussion. If a ton rests upon a tire one inch wide, the tire will cut and grind the roadway to a given extent; if the ton is put upon a tire two inches wide, there will be only one thousand

pounds on each inch instead of two thousand to crush the road as in the first instance; if the ton is put upon a tire four inches wide, there would be only five hundred pounds to an inch to crush the roadway, and so on. The wider the tire the less the wheel will sink into the roadway. The horse, moreover, is relieved from constantly pulling the load up hill in getting the wheel out of the depression which it is constantly making when the tire is narrow, or the animal may draw a heavier load in exerting the same force. This principle is so obvious, that it seems astonishing that the community has tolerated the heavy expense entailed by its non-observance up to this time.

In the city of Paris, if an improperly tired team should cut the roadway, the owner would be promptly arrested for a misdemeanor. Instances are not infrequent in the city of Providence, where enormously heavy loads have been drawn along the streets, cutting deep ruts into them at one passage, and an expensive highway force must repair the damage.

#### STREET CLEANING.

In regard to street cleaning, it has been the effort of this department to keep the city clean at the smallest expense. At the commencement of the season the old practice of sweeping the dirt into winrows in the evening, and leaving it to be taken up by the laborers on the following day, after the traffic of the city had commenced, was abolished. Several disadvantages attended this method; as for example, if it became windy during the night, the dirt was more or less blown about. In the morning, watering carts were needed to sprinkle the dirt that was left to be taken up; the laborers were impeded in the removal of the dirt, by teams, and the work of cleaning was necessarily prolonged throughout the day, greatly to the annoyance of the public.

Throughout the past season the practice has been for the laborers to immediately follow the street sweeping ma-



### BRIDGES OVER GUTTERS.

Attention is called to a class of dangerous obstructions peculiar to the streets of Providence, viz., the plank and iron bridges forming driveways over street gutters to private property. The danger to carriages striking them is apparent, and the liability of the city for damages is not to be overlooked. Rubbish collects under these bridges and clogs the gutters, and in the winter the water in the gutter freezes. They hinder the cleaning of streets, and in winter cause the department serious expense to break them out with bars and picks. An order by the board of aldermen for the removal of these bridges and the substitution of driveways would cure the evil.

### SEWER DEPARTMENT.

Expenses have been reduced in the maintenance branch of the sewer department, and an improved vigor and efficiency is observable in the work. There were two and one quarter miles of sewers constructed by contract during the year.

In regard to the improved sewerage system the department of public works received orders from the city council, approved July 15, 1889, for the building of the improved sewerage system as shown upon the map accompanying the resolution, and in accordance with the detail drawings, working plans and specifications as furnished by the city engineer. Under this resolution but two plans and specifications have been received, viz.: one for the grading of Earnest street and for the precipitation tanks, and another for a section of the outfall sewer along the shore of the river near Field's Point. The contract for the excavation and grading for the precipitation tanks and Earnest street was let, and the work is now in progress. At this date there is a force engaged upon this work, (and this is a fair average,) of sixty men and twenty-six teams upon the excavation of

about seven acres for the precipitation tanks, so called, and nineteen men and nine teams upon Earnest street.

### WATER WORKS.

In the water department the increase of water takers is very marked, and the department has this year arrived at the happy stage of receiving as much money as it expends, together with a small surplus. The figures upon the books are flattering, but the conclusion is not to be jumped at that these figures represent a state of things as favorable as at first appears, for the reason that the city departments pay the water works nearly \$60,000 per year for the water which they consume. Still, the outlook is a pleasant one. But the question must soon be met of an increase in pumping apparatus at the Pettaconset station, inasmuch as there are many weeks when the Corliss engine is working at  $\frac{5}{8}$  of its capacity; and the time is very close at hand when another engine of the same economical order must be purchased to co-operate with it in pumping the supply for the city. The Fruit Hill reservoir having now been constructed, it will be necessary to make some changes in the pumping works of the Hope station, to insure economical results. The method of pumping will henceforth be entirely different from that hitherto employed, inasmuch as without the reservoir, in times past, it was necessary to run the engine night and day throughout the year to maintain the requisite pressure upon the high service. This is all done away with, and that pressure will be maintained by the Fruit Hill reservoir. It will therefore be necessary to run the engine only for a certain number of days in the week to keep the reservoir full. Certain important improvements are now necessary to apply to the pumping apparatus, which will largely reduce the expenses for pumping water at that station.

Active and stringent measures will be taken by this de-

partment with regard to the defilement of the Pawtuxet river.

October 22d, the offer of Bernard Bardeen to paint the Cornish engine-house at Pettaconset, including the stand-pipe and engine, for the sum of seven hundred and twenty-five dollars, was accepted.

November 6th, the construction of Fruit Hill reservoir having nearly reached completion, water was turned on in the presence of His Honor the Mayor, members of the city council and a large gathering of citizens. The reservoir was allowed to slowly fill, since which time the engines at Hope station have been run but part of the time.

The average daily consumption of water during the last quarter was 5,577,358 gallons, and the average daily consumption for the year 1889 was 5,786,961 gallons.

Water pipes were laid during the quarter as follows :

24-INCH.	
In Harris avenue.....	40.63 feet.
12-INCH.	
In Fenner avenue.....	2,190.75 feet
8-INCH.	
In Downing street, Adelaide, President, Roger Williams and Taber avenues, and in Plainfield street, Hartford and Killingly roads, and Dyer avenue, Town of Johnston....	2,779.56 feet
6-INCH.	
In Bogman, Curtis, Fulton, George, Gillen, Grosvenor, Grove, Hanover, Sayles, Social, Station, Tenth and Updike streets, Lyman court, Arthur, Harris, Irving, Morris, Norwood, Reservoir, Rhode Island and Sears avenues, and in Green street and Washington avenue, Town of Cranston, and in Brown, Merino, Nye, Pettis and West Park streets, Alverson, Congdon and Rocky Hill avenues, Town of Johnston.....	10,509.21 feet
Total.....	15,520.15 feet,
or 2.94—miles.	

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084.	feet.
30-inch.....	59,637.	feet.
24-inch.....	43,418.92	feet.
20-inch.....	6,854.8	feet.
16-inch.....	31,746.36	feet.
12-inch.....	66,864.32	feet.
10-inch.....	14,758.10	feet.
8-inch.....	164,445.41	feet.
6-inch.....	750,869.73	feet.
Total.....	1,148,678.64	feet.

or 217.55—miles.

Four fire hydrants were set during the quarter, one in each of the following locations :

Alverson avenue, Johnston, west side, about 300 feet south of Hartford road.  
 Fenner avenue, east side, opposite north line of Josephine street.  
 Hartford road, Johnston, southwest corner of Merino street.  
 Killingly road, Johnston, north side, easterly corner of Pettis street.

The total number of fire hydrants is now thirteen hundred and twenty-five : thirteen hundred and fourteen flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, December 31, 1889, viz. :

No. of resolution.    Date of approval.

365.	July 18,	1888,	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
670.	Dec. 2,	1889,	<i>Lloyd and Slater avenues.</i>
673.	“ “	“	<i>Villa avenue, from Taber to Arlington.</i>

During the quarter one hundred and forty-five water meters were set, of which number nine were to replace other meters. The use of five meters was discontinued.

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{4}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	3,007	588	143	43	6			3,787
Ball & Fitts, rotary.....			22	25	3	5	3	53
Crown.....	3,918	585	149	60	21	6	4	4,743
Fales, Jenks & Sons.....	4	3	1					8
Worthington.....	28	1			1		1	31
	6,957	1,177	315	128	31	11	8	8,629

Seven hundred and eighty-nine permits to do plumbing work were issued during the quarter.

One hundred and eighty-one applications for water were made during the quarter, making the total number, December 31, 1889, fifteen thousand eight hundred and nine.

The number of new service stops opened during the quarter was one hundred and seventy-five.

The total number of service stops opened to December 31, 1889, inclusive, was fifteen thousand one hundred and thirty-six. The number in actual use December 31, 1889, was fourteen thousand two hundred and thirty-three.

The following Table shows the lengths, sizes, etc., of services laid during thirteen years ending December 31, 1889 :

YEARS.	LENGTHS OF SERVICES LAID IN FEET.										TAPS USED.					STOPS USED.					Service Boxes Used.			
	SIZES OF PIPES.										Total.	Trench- ing.	Paving.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	1 in.	Total.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.		$\frac{3}{4}$ in.	1 in.	Total.
	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	1 inch.	1 $\frac{1}{4}$ inch.	1 $\frac{1}{2}$ inch.	Total.	Trench- ing.	Paving.																
1877....	2,776.8	8,679.3	1,884.4	248.8	114.2	7.	13,710.5	14,422.44	2,105.67	173	571	114	15	6	879	173	571	114	15	6	879	896		
1878....	2,209.8	6,881.8	1,436.6	119.4	120.7	35.3	10,803.6	11,365.38	1,689.34	133	427	91	7	13	671	148	464	91	7	12	722	725		
1879 ...	1,624.9	6,107.5	874.4	275.7	66.2	7.	8,935.7	9,421.40	1,375.52	101	335	57	17	9	519	109	380	60	17	9	575	572		
1880....	2,163.6	5,951.2	1,150.0	483.6	186.1	16.9	9,951.4	10,468.87	1,528.45	136	334	66	25	17	578	141	358	67	26	17	600	603		
1881....	1,078.9	6,299.4	741.1	253.1	233.4	8.4	8,584.3	9,067.2	1,330.6	68	392	55	21	18	564	71	411	47	17	18	564	559		
1882....	.....	8,073.8	581.3	226.4	92.	32.	9,005.5	9,481.5	1,020.	...	511	49	17	15	592	....	525	41	15	14	595	610		
1883....	9.	8,075.83	761.09	143.	131.9	60.	9,180.82	9,649.5	1,284.5	1	508	61	12	14	596	2	537	44	10	13	606	629		
1884....	.....	8,048.72	732.2	296.3	119.6	23.2	9,190.02	9,715.5	1,084.6	....	512	64	18	17	611	....	539	51	15	13	618	641		
1885....	33.9	7,071.78	667.1	106.4	34.	28.4	8,841.58	9,283.	1,109.5	....	490	48	11	7	556	1	519	32	5	6	563	586		
1886 ...	23.	7,764.6	699.5	115.4	96.6	25.4	8,726.5	9,213.5	965.5	....	481	64	13	12	570	...	518	49	7	11	585	609		
1887....	.....	8,361.8	456.6	81.4	75.8	20.2	9,015.8	9,422.	1,164.1	....	516	47	11	11	585	....	543	32	7	10	592	612		
1888....	.....	7,496.6	563.6	66.8	105.2	55.8	8,276.0	8,768.	1,072.5	....	496	52	9	10	566	...	519	39	5	10	573	587		
1889....	.....	9,211.9	514.2	199.	90.2	8.2	10,023.5	10,563.	1,125.5	....	546	53	18	10	627	....	579	57	12	6	634	664		
Totals..	9,919.9	98,914.23	11,032.99	2,585.3	1,467.9	327.8	124,267.22	130,841.29	16,796.76	612	5,918	831	191	159	7,904	645	6,483	704	168	145	8,115	8,293		

The following table shows the lengths, sizes, etc., of services laid during the year ending  
December 31, 1889:

MONTHS.	LENGTH OF SERVICES LAID IN FEET.						TAPS USED.				STOPS USED.				Service Boxes Used.				
	SIZES OF PIPE.						Total.	Trench- ing.	Paving.	1/4 in.	3/8 in.	1/2 in.	Total.						
	% inch.	3/4 inch.	1 inch.	1 1/4 inch.	1 1/2 inch.	Total.													
January.....	277.6	12.2	.....	25.0	.....	314.8	331.	33.	18	3	.....	1	22	19	2	.....	1	22	24
February.....	76.4	14.	.....	.....	.....	89.4	94.	41.	3	1	.....	.....	4	3	1	.....	.....	4	4
March .....	522.6	24.6	25.2	.....	.....	572.4	610.	88.	34	3	1	..	38	34	3	1	.....	38	38
April.....	1,087.8	89.8	.....	60.0	.....	1,227.0	1,327.5	112.5	64	10	.....	2	76	69	5	.....	2	76	82
May.....	1,294.2	.....	.....	7.	.....	1,301.2	1,303.0	117.5	72	2	1	1	76	75	.....	.....	1	76	79
June..	782.3	90.5	8.2	.....	.....	881.0	803.5	70.	47	6	2	.....	55	50	5	1	.....	56	58
July.....	902.8	127.4	.....	8.2	.....	1,038.4	1,085.0	122.	46	9	.....	1	56	47	8	.....	1	56	58
August.....	814.7	24.6	53.4	.....	.....	892.7	945.0	107.5	46	4	5	1	56	50	3	3	.....	56	61
September.....	881.9	15.2	24.2	.....	.....	921.3	973.5	92.0	60	3	1	...	64	62	2	1	.....	65	66
October.....	1,065.0	54.3	8.2	.....	.....	1,127.5	1,180.5	93.	55	5	3	1	64	61	4	1	.....	66	70
November.....	802.6	20.2	57.4	.....	.....	940.2	982.	128.5	61	2	2	2	67	64	1	3	.....	68	71
December.....	666.6	41.4	22.4	.....	8.2	767.6	808.	60.5	40	5	3	1	49	45	3	2	1	51	53
Totals.....	9,211.9	514.2	190.	90.2	8.2	10,023.5	10,503.0	1,130.5	546	63	18	10	627	579	37	12	6	634	664

## Changes in size and location of services in 1889.

Discontinued.	TAPS AND STOPS.										SIZES AND LENGTHS OF LEAD PIPE.														Changes in size only.	Changes in location only.	Changes in both size and location.
	TAKEN OUT.					INSERTED.					TAKEN OUT.							INSERTED.									
	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{8}$ inch.	1 inch.	$\frac{1}{4}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{4}$ inch.	1 inch.	1 $\frac{1}{2}$ inch.	$\frac{1}{4}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{4}$ inch.	1 inch.	1 $\frac{1}{2}$ inch.	1 $\frac{3}{4}$ inch.										
4	26	13	4	3	.....	27	9	10	4	407.6	210.4	84.2	47	.....	487.4	98.6	183.2	72	.....	1105.5	232.5	30	0	11			



The following table exhibits the number of service stops opened each month from the commencement to December 31, 1889:

MONTHS.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
January.....	.....	54	33	21	34	55	15	49	9	20	7	17	15	21	17	18	26	7	39
February.....	.....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21
March.....	.....	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19
April.....	.....	109	100	106	32	108	82	78	52	58	55	49	55	62	48	68	60	38	61
May.....	.....	224	206	147	102	168	130	96	80	84	66	72	78	62	62	61	70	52	74
June.....	.....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59
July.....	.....	333	261	127	141	158	83	80	49	75	56	77	66	76	77	83	62	80	74
August.....	.....	224	200	123	83	94	91	51	51	39	58	87	69	61	57	71	40	52	56
September.....	.....	184	147	139	101	94	80	63	44	37	60	67	93	50	70	59	74	63	64
October.....	.....	138	135	160	92	84	81	78	79	48	61	56	47	65	62	52	80	70	64
November.....	.....	100	104	185	86	64	73	57	63	64	37	64	49	51	39	57	69	47	58
December.....	56	83	45	122	60	35	55	45	47	29	40	27	56	44	46	28	49	42	53
	548 =	1,393	1,590	1,364	977	1,008	865	777	573	615	548	614	612	611	575	595	612	570	642

The receipts for water each year since the commencement have been as follows :

Year.	Amount.	Year.	Amount.
1872.....	\$41,003 51	1881.....	\$280,530 87
1873.....	97,386 09	1882.....	209,318 77
1874.....	132,052 39	1883.....	283,632 89
1875.....	165,144 71	1884.....	302,368 30
1876.....	163,868 73	1885.....	313,561 21
1877.....	200,039 39	1886.....	323,084 67
1878.....	218,883 33	1887.....	339,513 60
1879.....	229,551 78	1888.....	346,721 58
1880.....	247,705 06	1889.....	377,497 97

The amount of bills approved on account of water works, from October 1 to December 31, 1889, inclusive, was

For construction and extension, . . . . . - \$33,209 63

Classified as follows :

Fruit Hill reservoir, for construction.....	\$14,237 56
Fruit Hill reservoir, for telephone line.....	43 00
Fruit Hill reservoir, for sundries.....	3 00
Cast iron water pipes.....	12,131 35
Laying water pipes.....	3,815 99
Laying service pipes.....	825 70
Rent of wharf and pipe yard.....	625 00
Special castings.....	579 40
Labor on and carting water pipe.....	575 35
Barn expenses.....	185 25
Wharf salaries.....	170 00
Service pipe.....	124 99
Stop valves.....	74 40
Horses, wagons, harnesses, etc.....	29 89
Tools.....	8 71

\$27,319 07

For maintenance, . . . . . \$31,313 59

Classified as follows :

**PETTACONSET PUMPING STATION.**

Coal and wood.....	\$5,100 30	
Cornish engine house.....	1,556 35	
Engineers.....	623 00	
Sundries.....	498 76	
Firemen.....	423 15	
Care of grounds.....	410 78	
Superintendence.....	250 00	
Lights.....	187 37	
Corliss pumping engine and house.....	181 70	
Real estate.....	97 19	
Labor on fuel.....	90 15	
Oil, waste and packing.....	77 48	
Cornish pumping engine.....	75 00	
Barn expenses.....	73 59	
	<hr/>	\$2,665

**SOCKANOSSET RESERVOIR.**

Watchman.....	158 00	
Sundries.....	11 40	
	<hr/>	169

**HOPE PUMPING STATION.**

Engineers.....	\$800 00	
Coal and wood.....	743 31	
Firemen.....	470 00	
Care of grounds.....	232 21	
Lights.....	121 50	
Oil, waste and packing.....	60 41	
Sundries.....	27 93	
Hope pumping engine, No. 2.....	2 95	
	<hr/>	2,458

**HOPE RESERVOIR.**

Watchman.....	37
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**PIPE LINE AND SERVICE STOPS.**

Repairs.....	\$905 41	
Superintendence—salaries.....	625 00	
	<hr/>	1,530

**METER DEPARTMENT.**

Water meters.....	\$4,614 90	
Setting and repairing meters.....	977 64	
	<hr/>	5,592
Amount carried forward.....		\$19,585

## MISCELLANEOUS.

Amount brought forward.....		\$19,585 48
Town of Cranston, tax.....	7,690 00	
Clerks' and inspectors' salaries.....	\$3,251 79	
Barn expenses.....	305 98	
Telephone lines.....	261 48	
Analyses of water.....	97 20	
Real estate at Pawtuxet.....	35 00	
Pipe yard, office expenses.....	30 50	
Horses, wagons, harnesses, etc.....	21 42	
Town of Lincoln, tax.....	16 86	
Public drinking fountains and troughs.....	11 67	
Sundries.....	6 21	
		<u>11,728 11</u>
		\$31,313 59

The amount of expenditures, from October 1 to December 31, 1889, inclusive, was . . \$64,523 22

The total expenditures to December 31, 1889, inclusive, was . . . \$6,976,828 57

The *net* expenditure for construction and extension from October 1 to December 31, 1889, inclusive, was..... \$31,493 75

The *net* expenditure for construction and extension to December 31, 1889, inclusive, was..... 5,471,631 66

The *net* expenditure for maintenance from October 1 to December 31, 1889, inclusive, was..... 25,089 63

The *net* expenditure for maintenance to December 31, 1889, inclusive, was..... 926,803 84

Bills deposited with the city treasurer for collection from October 1 to December 31, 1889, inclusive, amounted to, . . . \$39,516 35

As follows :

Water.....	\$33,537 44
Water meters.....	3,515 10
Setting and repairing water meters.....	718 53
Rent of real estate.....	63 02
Permanently closing service stops.....	35 00
Penalties.....	10 00
Old lumber.....	4 00
Labor and materials, laying service pipes, etc.....	1,249 92
Cast iron water pipes.....	383 32
	<u>\$39,516 35</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$46,858 60

As follows :

Water .....	\$38,959 31	
Water meters.....	4,583 10	
Setting and repairing water meters.....	1,186 75	
Rent of real estate.....	300 11	
Pasturage at Sockanosset.....	60 00	
Grass from Hope reservoir.....	50 00	
Permanently closing service stops.....	40 00	
Penalties.....	10 00	
Old lumber.....	4 00	
Labor and material, laying service pipes, etc.....	1,239 16	
Cast iron water pipes.....	426 17	
		\$46,858 60

## SEWERS.

During the quarter ending December 31, 1889, one hundred and sixty-six permits were issued to drain layers; one hundred and nine for new work, and fifty seven for extension and repair of drains.

During the year ending December 31, 1889, there have been constructed about 1.224 miles of pipe and 1.059 miles of brick sewers, making a total of 2.283 miles of sewers built, which, added to the length previously constructed, 60.725 miles, makes a total length of sewers at date, 63.008 miles. Sixty catch-basins have been built, making the total to date 2,155.

October 5, contracts for the construction of sewers, which have since been signed, were awarded as follows, namely:

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include cost of inspection and materials, or rock excavation.]

## TO JOHN KEOGH.

No. of resolution. Date of approval.

456.	Sept. 21, 1889,	<i>Bishop and Plain streets,</i>	\$1,410 62
457.	" " "	<i>Smith street, from Park, 100 feet west-erly,</i>	295 65

November 2d, all proposals for excavation in disposal division, sections 2 and 3, and Elmwood division, section 5, improved sewerage system, received in response to an advertisement, dated October 10th, 1889, having been re-jected, a contract was executed with Moulton and O'Mahoney for doing the work. Amount, \$29,360.00.

During the quarter, the construction of the following sewers was completed, namely :

No. of resolution.	Date of approval.		Date of completion.
276.	June 13, 1889.	<i>Gay street, from Robinson to Dudley,</i>	Oct. 11, 1889.
277.	" " "	<i>Robinson street, from Gay street to near Prairie avenue,</i>	" 12 "
366.	July 9, "	<i>Congdon street, from 100 feet north of Hal-sey to Olney,</i>	" 25 "
383.	" 15 "	<i>Mallett street, from Olney to Bates,</i>	" 3 "
423.	Aug. 8, "	<i>Broadway and Tobey street, from Almy to Ridge,</i>	Nov. 20, "
424.	" " "	<i>Grove street, from Almy to Tobey,</i>	Dec. 5, "
427.	" " "	<i>Ring street, from Courtland to Knight,</i>	" 13, "
456.	Sept. 21, "	<i>Bishop and Plain streets,</i>	Nov. 19, "

457. Sept. 21, 1889, *Smith street, from Park street, 100 feet westerly,* Oct. 31, 1889.

December 31st, work was in progress upon the following sewers, namely :

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street from Atwell's avenue to Tobey street.*
364. July 9, 1889, *In Cove Promenade.*
406. " 15, " *Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5, improved sewerage.*

Work upon the following sewers, completing the list ordered by the city council, had not commenced December 31, 1889, viz. :

No. of resolution. Date of approval.

382. July 15, 1889, *Almy and Gesler streets, from Broadway to Ridge street.*
425. Aug. 8, " *Grove and Knight streets, from Courtland to West Exchange.*
426. " " " *Ring street, from Almy to Tobey.*
580. Nov. 7, " *Common street, from Davis to Mulberry.*
581. " " " *Randall street, from Printery to Randall square.*
582. " " " *Tobey street, from High to Broadway.*
602. " " " *Western street, from Pleasant to Jenkins.*
613. " 16, " *Doyle avenue, from Camp street to East avenue.*
638. " 21, " *Villa avenue, from Taber to Arlington.*

## SEWER MAINTENANCE DEPARTMENT.

The following shows the work performed by the department cleaning sewers, basins, etc., during the year 1889:

MONTHS.	OLD WORK.					NEW WORK.								Total deposited removed.
	OLD DRAINS.			SAND CATCHERS.		SEWERS.			BASINS CLEANED.			TRAPPED.		
	Num-ber.	Length in Feet.	Deposit re-moved, cu. yds.	Num-ber.	Deposit re-moved, cu. yds.	Num-ber.	Length in Feet.	Deposit removed, cu. yds.	Dead ends cleaned.	Num-ber.	Deposit removed, cu. yds.	From hy- draulic traps.	By rain or melt- ed snow.	
January.....	1	30	0.9	3	20.8	28	14,420	17.7	91	621	550.4	477	144	589.8
February.....	1	...	...	...	...	12	4,805	113.9	.....	619	423.6	519	100	537.5
March.....	1	210	10.0	...	.....	33	18,310	8.3	.....	646	410.5	591	55	428.8
April.....	.....	.....	.....	5	26.0	1	20	1.2	.....	627	332.0	534	93	359.2
May.....	1	100	27.8	.....	.....	.....	.....	.....	.....	538	587.3	468	90	845.1
June.....	1	.....	.....	.....	.....	.....	.....	.....	.....	849	835.5	741	128	835.5
July..	4	450	59.25	2	13.75	.....	.....	.....	.....	686	753.75	824	62	826.8
August.....	.....	.....	.....	2	26.0	.....	.....	.....	.....	942	1,371.5	655	287	1,397.5
September.....	2	200	23.7	.....	.....	10	4,190	2.3	11	974	954.0	898	76	999.0
October.....	.....	.....	.....	8	71.6	31	14,850	13.2	22	661	517.0	607	54	601.8
November.....	.....	.....	.....	8	38.5	19	6,350	7.0	.....	543	501.3	416	127	546.8
December...	.....	.....	.....	.....	.....	.....	.....	.....	.....	523	474.66	388	135	474.66
Totals.....	11	990	371.6	28	196.6	134	62,945	163.6	124	8,269	7,711.5	6,918	1,351	8,443.3



Bills approved on account of sewers from October  
December 31, 1889, inclusive, amounted to

For construction, regular appro-	
priation, . . . . .	\$19,356 14
Special appropriation, improved	
sewerage, . . . . .	5,548 08
	<hr/>
	\$24,90

Charged as follows :

Materials.....	\$4,005 73
Clerk's salary.....	231 00
Testing cement.....	177 05
Sundries.....	32 23
Sewer in Bishop and Plain streets.....	1,513 24
Sewer in Broadway and Tobey street.....	3,458 84
Sewer in Congdon street, from 100 feet north of Halsey to Olney.....	1,428 57
Sewer in King street, from Courtland to Knight.....	408 49
Sewer in Cove Promenade.....	1,334 36
Sewer in Gay street, from Robinson to Dudley.....	69 13
Sewer in Grove street, from Almy to Tobey.....	870 87
Sewer in Robinson street, from Gay to near Prairie avenue.....	803 90
Sewer in Smith street, from Park 100 feet westerly..	325 49
Sewer in West Exchange and Ridge streets.....	4,517 24
Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5.....	5,548 08
	<hr/>
	\$24,904 22

For maintenance, . . . . . 4,50

Charged as follows :

Cleaning basins and sewers.....	\$2,126 13
Repairing basins and sewers.....	499 42
Cleaning and repairing old drains.....	475 82
Salary—superintendent.....	350 00
Barn expenses.....	325 00
Inspection of connections.....	250 00
Horses, wagons, harnesses, etc.....	209 11
Tools.....	163 31
Cleaning private connections.....	98 29
Telephone lines.....	34 00
Sundries.....	28 55
Filling cisterns, etc.....	9 68
	<hr/>
	\$4,589 31

## REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 33

The <i>net</i> expenditure for construction of sewers to December 31, 1889, inclusive, was.....	\$1,985,396 02
The <i>net</i> expenditure for maintenance of sewers to December 31, 1889, inclusive, was.....	297,287 70

Bills deposited with the city treasurer for collection, from October 1, to December 31, 1889, inclusive, amounted to . . . . . \$263 77

As follows :

Cleaning private connections.....	\$155 15
Old iron, etc.....	19 38
Providence Cable Tramway Company, altering man- holes, etc.....	4 55
Disinfecting for health department.....	3 00
Filling cisterns, etc.....	2 20
Materials.....	50 75
Private drains laid in streets.....	28 76
	\$263 77

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$297 97

As follows :

Cleaning private connections.....	\$167 85
Old iron, etc.....	19 38
Filling cisterns, etc.....	14 65
Providence Cable Tramway Company, repairing catch basin, etc.....	4 55
Disinfecting for health department.....	3 00
Testing cement.....	30 80
Materials.....	29 00
Private drains laid in streets.....	28 76
	\$297 97

### HIGHWAYS.

Eight permits to open streets were issued during the quarter.

During the last quarter, portions of the following streets and avenues have been repaired :

Aborn,	Gaspee,
Back,	Greenwich,
Benefit,	Hawkins,
Bridge,	Parsonage,
Broad,	Plain,
Brook,	Point,
Burrill,	Richmond,
Chestnut,	Snow,
Charles,	Smithfield,
Commodore,	Swan Point,
Candace,	Tockwotton,
Chalkstone,	Washington,
Douglas,	West River,
Eaton,	Woodward.
Fountain,	

November 7th, a contract was executed with John Garvey for furnishing 7,000 square yards granite blocks, . . . Amount, \$11,760 00

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows, viz :

Potter's avenue, from Broad to Ocean street.....	\$2,985 53
Plain street, from Public to Potter's avenue.....	750 23
Plain street, in front of Hayward park.....	420 43
Dye street, from Broadway to Atwell's avenue.....	268 83
Bogman street, from Prairie avenue to Hilton street.....	664 15
Bellevue avenue, from Cranston street to Long pond.....	2,241 88
Perry street, from High to Broadway.....	819 44
	<hr/>
	\$8,150 49

During the quarter the following work was completed :

#### SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

Jan. 19, 1888, *Westfield street, from Harrison to Dexter.*

June 21, " *Bates street, from Mallett to Riley.*

- Sept. 20, 1888, *Riley street, from Bates to Lippitt.*  
 " " " *North Davis street, from Douglas avenue to old city line.*  
 Nov. 22, " *Angell street, from Butler to Wayland avenue.*  
 Dec. 20, " *Oxford street, from Plain to Miner.*  
 Feb. 21, 1889, *Florence street, from Amherst to Manton avenue.*  
 May 16, " *Covell street, from Amherst to Atwell's avenue.*  
 Sept. 19, " *Farthing street, from Bridge to South Water.*  
 Oct. 31, " *Waterman street, north side, adjoining estate of American Ship Windlass Company.*

## TO BE BROUGHT TO GRADE.

- May 31, 1889, *Robinson street, from Prairie avenue to Gay street.*  
 Aug. 1, " *Bogman street, from Plain to Hilton.*  
 Sept. 19, " *Peace and Plenty streets.*

## TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.

- May 2, 1889, *Pontiac street, from Reservoir avenue to city line.*  
 June 6, " *Farthing street, from Bridge to South Water.*

## CURBING TO BE REMOVED.

- Nov. 14, 1889, *Eddy street, corner Pavilion avenue.*

## TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR PUBLIC TRAVEL.

- June 20, 1889. *Grove street, from Knight to Vinton.*  
 Dec. 7, " *Adelaide avenue, at Hamilton street.*

### MANHOLE IN GAY STREET.

Oct. 23, 1889, *Repaired.*

### SIDEWALKS CONCRETED.

510. Sept. 24, 1889, *Candace street, adjoining school estate.*  
 511. " " " *Junction Smith and Orms streets, adjoining fire station.*  
 527. " " " *Harrison street, adjoining fire station, and driveway to be put in.*  
 Nov. 7, " *Oxford street, school estate.*

### PAVED WITH GRANITE BLOCKS.

Oct. 23, 1889, *Farthing street, from Bridge to South Water.*

The following work was in progress December 31, 1889, viz. :

### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

#### Date of order.

- June 17, 1886, *Chalkstone avenue, from Academy to River:*  
 —one cross-walk to be laid and gutters concreted.  
 Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue:*—bank wall well along; considerable grading has been done, some curbing set, and the roadway between Cove street and Brayton avenue built.  
 Nov. 17, 1887, *Daboll street, from Updike to Public:*—finished except concreting gutters.  
 June 21, 1888, *Vandewater street, from Douglas avenue to Branch avenue:*—about one-half of the work has been done.

- June 21, 1888, *Almy street, from Penn to Gesler*:—curbing set and gutters paved; roadway to be built.
- Nov. 22, “ *Taber avenue, from 100 feet north of Humboldt to north line of Irving*:—finished except cross-walks to be laid and gutters to be concreted.
- Dec. 20, “ *Colwell street, from Plain to Prairie avenue*; —one-half done.
- “ “ “ *Roanoke street, from end of curb to Mt. Pleasant avenue*:—about two-thirds done.
- April 18, 1889, *Updike street, from Daboll to Public and Peace to Moore*:—finished except concreting gutters.
- June 20, “ *Grove street, from Knight to Vinton*:—finished except concreting gutters.

## BANK WALL TO BE BUILT.

532. Sept. 24, 1889, *West Exchange street, about 500 feet*:—work being done under contract.

## TO TAKE POSSESSION OF.

- April 13, 1889, *Ocean street, from Thurber's avenue to Richardson street*:—a considerable portion of the grading has been done.
- Oct. 31, “ *Ocean street, from Richardson to Byfield*: —work commenced.
- “ “ “ *King street, from Manton avenue to Sheridan street*:—work commenced.

## TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR PUBLIC TRAVEL.

## Date of order.

- Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

## TO BE FILLED.

July 17, 1884, *Pond opposite works of the Nicholson File Company*:—a large portion of the pond has been filled.

## TO BE BUILT.

No. of resolution.    Date of approval.

432.    Sept. 10, 1887,    *West Exchange street, from Atwell's avenue to Cove street; also, sewer in said street*:—work being done under contract.
274.    June 13, 1889,    *Smith street, from Ruggles to the city line*:—about three-quarters done.

The following work ordered by the board of aldermen and city council had not commenced December 31, 1889, viz. :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Nov. 18, 1886,    *Ridge street, from west line of Tobey to Atwell's avenue.*
- Dec. 15, 1887,    *Transit street, from Ives to Gano.*
- Mar. 15, 1888,    *Howe street, from Fenner avenue 450 feet easterly.*
- April 19,    “    *Lilac street, from Brattle to Salem.*
- “    “    “    *Pomona avenue, from Academy avenue to Pemberton street.*
- Sept. 20,    “    *Darling street, from McKenna to West River.*
- “    “    “    *Halsey street, from Brown to Prospect.*
- Oct. 18,    “    *Erastus street, from Amherst to Atwell's avenue.*

## Date of order.

- Oct. 18, 1888, *Jackson avenue, from Potter's avenue to Beckwith.*
- Dec. 20, " *Atlantic street, from Broad to Niagara.*
- " " " *Adelaide avenue, from Niagara to Melrose street.*
- " " " *Dahlia street, from Cranston to Brattle.*
- " " " *Franklin avenue, from Chalkstone avenue to Vale street.*
- April 18, 1889, *Dahlia street, from Brattle to Salem.*
- May 16, " *Tanner street, from Pearl to Dudley.*
- June 20, " *Admiral street, from Douglas avenue to Mowry street.*
- " " " *Congress street, from Broad to Melrose.*
- " " " *Fremont street, from Ives to Gano.*
- " " " *Ruggles street, from Chalkstone avenue to Smith.*
- " " " *Butler avenue, from Blackstone park to President avenue.*
- Oct. 17, " *Gay street, from Willard avenue to Dudley street.*
- " " " *Pettis street, from North Main to Moshassuck river.*
- " " " *Robinson street, from Prairie avenue to Gay street.*
- Nov. 21, " *Frank street, from Beacon to Prairie avenue.*
- " " " *Thurber's avenue, from west end of curb to Broad street.*
- Dec. 19, " *South Angell street, from end of curb to East River street.*
- " " " *Bogman street, from Plain to Hilton.*
- " " " *Joslin street, from Atwell's to Manton avenues.*
- " " " *Villa avenue, from Taber to Arlington.*



## TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
“ 13, 1887, *Transit street, from Ives to Gano.*  
Apr. 13, 1889, *Eddy street, from railroad bridge to Broad street.*  
285. June 14, “ *Lot on Jackson avenue belonging to Rachel Paine.*  
“ 20, “ *Manton avenue, near junction of Chalkstone avenue.*  
Sept. 19, “ *Olney street, from East avenue easterly and northerly.*

## TO TAKE POSSESSION OF.

- Dec. 26, 1889, *Dexter street, from Cromwell to Potter's avenue.*

## GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

Date of order.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain street.*

## TO BE BUILT.

577. Nov. 7, 1889, *Jenkins street, from North Main to Camp.*

## TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*  
269. May 21, “ *Greenwich street, from near Sprague to Public.*  
573. Nov. 7, “ *North Main street, from Olney to Randall.*  
576. “ “ “ *Back street, from Orms to Smith.*  
668. Dec. 2, “ *Friendship street, from Chestnut to Beacon avenue.*

GUTTERS TO BE CONCRETED.

558. Oct. 23, 1889. *Waterman street.*

600. Nov. 7, " *Angell street.*

TO BE REPAIRED AT EXPENSE OF CITY.

June 20, 1889, *Villa avenue, from Arlington to Taber.*

CULVERTS TO BE BUILT.

712. Dec. 26, 1889, *Across Dudley street to connect from Blackstone to Plain and extend from Blackstone street southwesterly.*

Bills approved on account of highways from  
October 1 to December 31, 1889, inclusive,  
amounted to :

Regular appropriation .....	\$67,197 41	
Special appropriation under chapter xci.....	13,714 15	
Appropriation for West Exchange street retaining wall.....	6,806 02	
		<u>\$87,627 58</u>

Classified as follows :

Repairs on unpaved streets.....	\$17,175 59
Cleaning streets.....	7,678 89
Stone—paving and crosswalk.....	5,524 70
Crushed stone—material and labor.....	5,085 89
Barn expenses.....	2,459 12
Repairs on paved streets.....	1,682 53
Salaries—superintendent and clerks.....	1,558 75
Blacksmith and wheelwright shop.....	1,058 35
Tools, implements, etc.....	912 76
Repairs on stone crusher.....	837 69
Labor on materials.....	700 95
Screening gravel.....	508 26
Steam rollers—repairs and supplies.....	370 19
Watchman at city yard.....	333 45
Horses, wagons, harnesses, etc.....	285 38
Fencing streets.....	105 39
Sundries.....	54 34
Telephone lines.....	36 80
Office expenses, city yard.....	27 93
Amount carried forward.....	<u>\$46,396 96</u>

Amount brought forward.....

\$46,396 96

**NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Angell street</i> , from Butler avenue to Wayland.....	\$100 58	
<i>Bates street</i> , from Mallett to Riley.....	2,393 11	
<i>Chalkstone avenue</i> , from Academy to River.....	3,211 15	
<i>Colwell street</i> , from Plain to Prairie avenue.....	1,371 42	
<i>Covell street</i> , from Atwell's avenue to Amherst street.....	1,802 64	
<i>Daboll street</i> , from Updike to Public.....	1,415 10	
<i>Farthing street</i> , from Bridge to South Water.....	1,687 91	
<i>Florence street</i> , from Manton avenue to Amherst...	223 76	
<i>Grove street</i> , from Vinton to Knight.....	563 05	
<i>North Davis street</i> , from Douglas avenue to old city line.....	51 35	
<i>Oxford street</i> , from Plain to Miner.....	320 02	
<i>Riley street</i> , from Bates to Lippitt.....	727 52	
<i>Roanoke street</i> , from end of curb to Mount Pleasant avenue.....	1,099 44	
<i>Taber avenue</i> , from near Humboldt to Irving.....	14 37	
<i>Updike street</i> , from Daboll to Public and Peace to Moore.....	1,135 66	
<i>Waterman street</i> , adjoining American Ship Windlass Company.....	23 07	
<i>West Exchange street</i> , from Cove to Ridge.....	4,371 13	
<i>Westfield street</i> , from Harrison to Dexter.....	80 96	
		<hr/>
		\$20,660 24

**TO BE BUILT.**

<i>Smith street</i> , from Ruggles street to city line.....	\$8,703 83
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**TAKE POSSESSION OF.**

<i>Pontiac street</i> , from Reservoir avenue to city line,	612 63
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**PAVE WITH GRANITE BLOCKS.**

<i>Greenwich street</i> , from Sprague to Public .....	21 08
--	-------

**PUT IN GOOD CONDITION.**

<i>Lockwood street</i> , from Pine to Plain.....	1,417 46	\$10,753 00
Amount carried forward.....		<hr/>
		\$77,812 20

Amount brought forward..... \$77,812 20

TO BE BROUGHT TO GRADE.

<i>Bogman street</i> , from Plain to Hilton.....	\$912 05
<i>Peace and Plenty streets</i> .....	98 52
<i>Penn street</i> , from Ridge to Almy.....	48 32
<i>Robinson street</i> , from Prairie avenue to Gay street.	190 00

PUT IN SAFE CONDITION.

<i>Adelaide avenue</i> , at intersection with Hamilton street.....	109 07
<i>Transit street</i> , from Ives to Gano.....	164 70

REPAIRING FOUNTAIN.

<i>Gay street</i> .....	1,244 52
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BUILDING RETAINING WALL.

<i>West Exchange street</i> .....	6,806 02
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SIDEWALKS TO BE CONCRETED.

<i>Candace street</i> , adjacent to grammar school.....	94 87	
<i>Harrison street</i> , at fire station.....	126 85	
<i>Smith and Orms streets</i> , adjacent to fire station....	20 46	\$11,253 92
		<u>\$87,627 58</u>

Bills deposited with the city treasurer for collection, from October 1 to December 31, 1889, inclusive, amounted to . . . . \$677 88

As follows :

Labor and materials.....	\$261 60
Town of Cranston, use of steam roller, etc.....	149 67
Street sweepings .....	131 27
Manure from barn.....	53 75
Old iron.....	51 84
Old wheels, etc.....	17 75
Tools.....	11 00
Chopping blocks.....	1 00
	<u>\$677 88</u>

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$1,124 81

As follows :

Labor and materials.....	\$546 80
Street sweepings.....	237 00
Town of Cranston, use of steam roller, etc.....	149 67
Manure from barn.....	107 50
Old iron.....	51 84
Tools, etc.....	23 00
Old wheels.....	8 00
Chopping blocks.....	1 00
	<hr/>
	\$1,124 81

The expenditures on account of sidewalks and curbing, from October 1 to December 31, 1889, inclusive, amounted to . . . \$9,347 72

Sidewalk and curbing bills deposited with the city treasurer for collection, from October 1 to December 31, 1889, inclusive, amounted to . \$342 14

As follows :

Curbing.....	\$330 85
Concreting sidewalk.....	11 29
	<hr/>
	\$342 14

During the quarter, coupons from sidewalk and curbing bills collected have been returned by the city treasurer, and receipted for, amounting to \$414 95

As follows :

Curbing.....	\$403 66
Concreting sidewalk.....	11 29
	<hr/>
	\$414 95

JOHN A. COLEMAN,  
*Commissioner.*

1890, 7

CITY DOCUMENT.

[No. 19.]

TWENTY-NINTH  
QUARTERLY REPORT  
OF THE  
DEPARTMENT OF PUBLIC WORKS  
OF THE  
CITY OF PROVIDENCE, R. I.

QUARTER ENDING MARCH 31, 1890.



The Providence Press:  
SIMPSON & FARNHAM, CITY PRINTERS,  
37 Custom House Street,  
1890.



1890.]

CITY DOCUMENT.

[No. 19.]

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**TWENTY-NINTH**  
**QUARTERLY REPORT**  
**OF THE**  
**DEPARTMENT OF PUBLIC WORKS**

**OF THE**  
**CITY OF PROVIDENCE, R. I.**

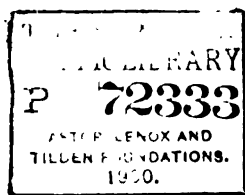
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**QUARTER ENDING MARCH 31, 1890.**



**The Providence Press:**  
**SNOW & FARNHAM, CITY PRINTERS,**  
37 Custom House Street.  
1890.





# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., April 1, 1890. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter iv. of the ordinances, the Commissioner of Public Works respectfully presents the twenty-ninth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending March 31, 1890.

## WATER WORKS.

February 3d, the offer of Thomas Phillips & Co., to furnish thirteen and one-half tons of lead pipe, various sizes, and five hundred pounds of pig tin, was accepted. Amount, \$1,403.50.

February 3d, the offer of L. H. Tillinghast & Co., to furnish thirteen and one-half tons of lead pipe, various sizes, was accepted. Amount, \$1,296.00.

February 3d, the offer of Congdon, Carpenter & Co., to furnish twelve tons pig lead was accepted. Amount, \$984.00.

February 3d, the offer of the Galvin Brass and Iron Works, to furnish twelve two and one-half inch water gates was accepted. Amount, \$63.00.

February 3d, the offer of the Whittier Machine Company, to furnish

20 4-inch	4 8-inch
75 6-inch	1 20-inch

water gates, was accepted. Amount, \$1,970.25.

February 4th, an offer of the Providence Steam and Gas Pipe Company, to furnish one thousand lock service-box covers, was accepted. Amount \$290.00.

February 4th, an offer of Fales & Jenks Machine Co., to furnish twenty-five fire hydrants, boxes and covers, was accepted. Amount, \$3,500.00.

February 4th, an offer of John W. Lyon, to furnish

600 $\frac{1}{2}$ -inch taps,	30 $\frac{3}{4}$ -inch taps,
600 $\frac{1}{2}$ -inch stops,	20 $\frac{3}{4}$ -inch stops,
60 $\frac{3}{8}$ -inch taps,	20 1-inch taps,
40 $\frac{3}{8}$ -inch stops,	50 1-inch stops,

was accepted. Amount, \$1,248.75.

February 19th, the proposal of the Fuller Iron Works, to furnish special castings, service boxes and castings for sewers was accepted, and a contract was subsequently executed.

March 18th, an offer of the Gloucester Iron Works, to furnish, delivered on wharf in this city,

5 tons	4-inch cast iron water pipes,
450 tons	6-inch cast iron water pipes,
145 tons	8-inch cast iron water pipes,
90 tons	12-inch cast iron water pipes and
10 tons	20-inch cast iron water pipes,

was accepted, all proposals for furnishing same having been rejected. A contract was subsequently executed. Amount, \$20,650.00.

The average daily consumption of water during the last quarter was 6,456,699 gallons.

Water pipes were laid during the quarter, as follows :

8-INCH.

In West Exchange street..... 2. feet.

6-INCH.

In Bogman, Borva, Colwell, Dorrance, Halsey, Ridge and West Exchange streets, and Pomona avenue.....	2,744.13 feet.
Total.....	2,746.13 feet,

or .52+mile.

Statement of sizes and lengths of pipes laid since the commencement of the work :

36-inch.....	10,084.	feet.
30-inch.....	59,637.	feet.
24-inch.....	43,418.92	feet.
20-inch.....	6,854.8	feet.
16-inch.....	31,746.36	feet.
12-inch.....	66,864.32	feet.
10-inch.....	14,758.10	feet.
8-inch.....	164,447.41	feet.
6-inch.....	753,613.85	feet.
Total.....	1,151,424.76	feet.

or 218.07+miles.

Three fire hydrants were set during the quarter, one in each of the following locations :

Adelaide avenue, north side, opposite west line of Downing street.  
Colwell street, north side, about 80 feet west of Ocean street.  
Dorrance street, north east side, about 250 feet southeast of Dyer street.

The total number of fire hydrants is now thirteen hundred and twenty-eight : thirteen hundred and seventeen flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, March 31, 1890, viz. :

No. of resolution. Date of approval.

365.	July 18,	1888,	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
670.	Dec. 2,	1889,	<i>Lloyd and Slater avenues.</i>
673.	" "	" "	<i>Villa avenue, from Taber to Arlington.</i>
79.	Feb. 25,	1890,	<i>Mount Pleasant avenue and Fairview street.</i>
80.	" "	" "	<i>Regent street, from Robin street easterly.</i>
81.	" "	" "	<i>Rocky Hill avenue, Johnston, from Cleveland street northerly.</i>
82.	" "	" "	<i>Douglas avenue and Seamans street.</i>
83.	" "	" "	<i>Wood and Norfolk streets.</i>
135.	March 25,	1890,	<i>Over Manton avenue new bridge.</i>
150.	" "	" "	<i>Johnston street, Johnston, from Webster avenue easterly.</i>
151.	" "	" "	<i>Mechanics avenue, from Livingston street northerly.</i>

During the quarter one hundred and ninety-three water meters were set, of which number eight were to replace other meters. The use of five meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{8}$ -in.	$\frac{3}{8}$ -in.	1-in.	1½-in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	3,010	586	144	43	6	.....	.....	3,780
Ball & Fitts, rotary.....	.....	.....	23	25	3	5	3	58
Crown.....	4,062	599	151	63	20	6	4	4,925
Fales, Jenks & Sons.....	3	2	1	.....	.....	.....	.....	6
Worthington.....	26	1	.....	.....	1	.....	1	29
	7,121	1,188	318	131	30	11	8	8,807

Sixty-two plumber's licenses were issued during the quarter, all of which expire December 31, 1890.

Four hundred and eighty-six permits to do plumbing work were issued during the quarter.

Sixty-nine applications for water were made during the quarter, making the total number March 31, 1890, fifteen thousand eight hundred and seventy-eight.

The number of new service stops opened during the quarter was eighty-nine.

The total number of service stops opened to March 31, 1890, inclusive, was fifteen thousand two hundred and twenty-five. The number in actual use March 31, 1890, was fourteen thousand three hundred and five.

The amount of bills approved on account of water works, from January 1 to March 31, 1890, inclusive, was

For construction and extension, . . . \$7,549 39

Classified as follows :

Fruit Hill reservoir, for construction.....	\$351 00
Service pipe.....	2,651 42
Laying water pipes.....	1,974 48
Stop valves.....	1,034 26
Laying service pipes.....	624 09
Special castings.....	542 10
Wharf salaries.....	128 33
Barn expenses.....	75 38
Horses, wagons, harnesses, etc.....	62 28
Labor on and carting water pipe.....	58 15
Tools.....	17 90
	<hr/>
	\$7,549 39

For maintenance, . . . . . \$13,897 80

Classified as follows :

**PETTACONSET PUMPING STATION.**

Engineers.....	\$625 00
Sundries.....	494 43
Firemen.....	458 23
Superintendence.....	250 00
Coal and wood.....	231 67
Lights.....	200 00
Corliss pumping engine and house.....	178 38
Oil, waste and packing.....	139 06
Care of grounds.....	131 85
Labor on fuel.....	106 80
Barn expenses.....	54 05
Cornish engine house.....	12 00
Real estate.....	8 55
	<hr/>
	\$2,890 01

**SOCKANOSSET RESERVOIR.**

Watchman.....	135 00
Sundries.....	10 80
	<hr/>
	145 80

**HOPE PUMPING STATION.**

Engineers.....	\$800 00
Firemen.....	442 00
Sundries.....	198 67
Lights.....	109 75
	<hr/>
Amount carried forward.....	1,550 42
	<hr/>
	\$3,035 81

REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 9

Amount brought forward.....	\$1,559 42	\$3,035 81
Care of grounds.....	91 36	
Hope pumping engine, No. 2.....	84 38	
Oil, waste and packing.....	43 06	
Coal and wood.....	13 06	
	<u>          </u>	\$1,782 28

HOPE RESERVOIR.

Watchman.....	202 50
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PIPE LINE AND SERVICE STOPS.

Repairs.....	\$922 33	
Superintendence—salaries.....	650 00	
	<u>          </u>	1,572 33

METER DEPARTMENT.

Water meters.....	\$2,576 00	
Setting and repairing meters.....	960 55	
	<u>          </u>	3,536 55

MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$2,963 50	
Prevention of defilement of the Pawtuxet.....	423 47	
Barn expenses.....	117 12	
Analyses of water.....	97 20	
Telephone lines.....	72 38	
Sundries.....	58 64	
Public drinking fountains and troughs.....	15 00	
Pipe yard, office expenses.....	14 25	
Horses, wagons, harnesses, etc.....	6 77	
	<u>          </u>	3,768 33
		\$13,897 80

The amount of expenditures from January 1  
to March 31, 1890, inclusive, was . . . \$21,477 19

The total expenditures to March 31, 1890,  
inclusive, was . . . . . \$6,998,275 76



The <i>net</i> expenditure for construction and extension from January 1 to March 31, 1890, inclusive, was.....	\$43
The <i>net</i> expenditure for construction and extension to March 31, 1890, inclusive, was.....	5,478.5
The <i>net</i> expenditure for maintenance from January 1 to March 31, 1890, inclusive, was.....	9.4
The <i>net</i> expenditure for maintenance to March 31, 1890, inclusive, was.....	936.2

Bills deposited with the city treasurer for collection from January 1 to March 31, 1890, inclusive, amounted to . . . . \$292,473

As follows :

Water.....	\$287,002 11
Water meters.....	3,293 00
Setting and repairing water meters.....	1,273 50
Rent of real estate.....	233 02
Penalties.....	78 00
Permanently closing service stops.....	40 00
Labor and materials, laying service pipes, etc.....	415 01
Old lead dross.....	107 46
Cast iron water pipes.....	21 34
Manure from barn.....	10 00
	<hr/>
	\$292,473 44

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$281,149

As follows :

Water.....	\$275,969 01
Water meters.....	3,286 00
Setting and repairing water meters.....	950 70
Rent of real estate.....	210 52
Penalties.....	78 00
Permanently closing service stops.....	40 00
Labor and material, laying service pipes, etc.....	422 92
Old lead dross.....	107 46
Cast iron water pipes.....	74 79
Manure from barn.....	10 00
	<hr/>
	\$281,149 40

## SEWERS.

During the quarter ending March 31, 1890, forty permits were issued to drain layers; seventeen for new work, and twenty-three for extension and repair of drains.

Twenty drain-layer's licenses were issued during the quarter, all of which expire December 31, 1890.

March 12th, the proposal of Little & Wheeler, for constructing an office-building and shed near Field's Point, was accepted, and a contract subsequently executed. Amount, \$611.00.

March 20th, the proposal of Herbert R. Horton, to furnish the cement required during the season of 1890, exclusive of that required for the Improved Sewerage System, delivered on the work, was accepted, and a contract subsequently executed.

March 25th, the proposal of the Portland Stone Ware Co., of Portland, Me., to furnish, delivered in this city, sewer pipes, etc., was accepted, and a contract subsequently executed. Amount, \$1,733.59.

March 25th, the proposal of Manchester & Hudson, to furnish flag-stones for catch basins, delivered in this city, was accepted, and a contract subsequently executed. Amount, \$443.25.

During the quarter, the construction of the following sewers was completed, namely :

No. of resolution.	Date of approval.	Date of completion.
364.	July 9, 1889,	<i>In Cove Promenade</i> , Feb. 1, 1890.
382.	" 15, "	<i>Almy and Gesler streets, from Broadway to Ridge street</i> , Mch. 26, "
426.	Aug. 8, "	<i>Ring street, from Almy to Tobey</i> , Feb. 25, "

March 31, work was in progress upon the following sewers, namely :

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street, from Atwell's avenue to Tobey street.*
406. July 15, 1889, *Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5, improved sewerage.*
425. Aug. 8, " *Grove and Knight streets, and Atwell's avenue, from Courtland to West Exchange.*
71. Feb. 25, 1890, *Office-building and shed at Field's Point.*

Work upon the following sewers, completing the list ordered by the city council, had not commenced March 31, 1890, viz. :

No. of resolution. Date of approval.

580. Nov. 7, 1889, *Common street, from Davis to Mulberry.*
581. " " " *Randall street, from Printery to Randall square.*
582. " " " *Tobey street, from High to Broadway.*
602. " " " *Western street, from Pleasant to Jenkins.*
613. " 16, " *Doyle avenue, from Camp street to East avenue.*
638. " 21, " *Villa avenue, from Taber to Arlington.*

Bills approved on account of sewers from January 1 to March 31, 1890, inclusive, amounted to

For construction, regular appropriation, . . . . .	\$17,140 88	
Special appropriation, improved sewerage, . . . . .	14,996 08	
		<u>\$32,136 96</u>

Charged as follows :

Materials.....	\$5,618 51
Rent of wharf and pipe yard.....	625 00
Clerk's salary.....	199 50
Testing cement.....	95 50
Sundries.....	41 51
Sewer in Almy and Gessler streets.....	1,917 09
Sewer in Cove Promenade.....	1,424 32
Sewer in Grove and Knight streets, and Atwell's avenue.....	1,122 51
Sewer in Ring street, from Almy to Tobey.....	837 15
Sewer in West Exchange and Ridge streets.....	5,259 79
Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5.....	14,996 08
	<u>\$32,136 96</u>

For maintenance, . . . . . 3,074 95

Charged as follows :

Cleaning basins and sewers.....	\$1,092 54
Cleaning and repairing old drains.....	460 57
Horses, wagons, harnesses, etc.....	405 96
Salary—superintendent.....	350 00
Barn expenses.....	342 30
Inspection of connections.....	250 00
Tools.....	66 02
Cleaning private connections.....	37 39
Repairing basins and sewers.....	30 43
Sundries.....	23 01
Telephone lines.....	10 36
Filling cisterns, etc.....	6 37
	<u>\$3,074 95</u>

The net expenditure for construction of sewers to March 31, 1890, inclusive, was.....	\$2,017,497 38
The net expenditure for maintenance of sewers to March 31, 1890, inclusive, was.....	300,288 60

Bills deposited with the city treasurer for collection, from January 1 to March 31, 1890, inclusive, amounted to . . . . . \$71 85

As follows :

Cleaning private connections.....	\$61 70
Filling cisterns, etc.....	10 15
	<hr/> \$71 85

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$109 65

As follows :

Cleaning private connections.....	\$61 70
Filling cisterns, etc.....	12 35
Materials.....	35 60
	<hr/> \$109 65

## HIGHWAYS.

Five permits to open streets were issued during the quarter.

January 30th, the proposal of John Garvey, to furnish 30,000 lineal feet of straight and 1,500 feet of circular curbing, 10-foot radius, was accepted, and a contract subsequently executed. Amount, \$20,130.00.

February 3d, an offer of Chapman Granite Works, to furnish five thousand square yards granite blocks, delivered on cars in the city, was accepted. Amount, \$8,000.00.

February 24th, the proposal of E. D. Smith & Son, to cover gutter paving with concrete top dressing and for concreting sidewalks, was accepted, and a contract subsequently executed.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows, viz :

Udpike street, from Daboll to Public and Peace to Moore.....	\$1,163 52
Conduit street, from Stewart to Summer.....	366 91
Grove street, from Vinton to Knight.....	566 86
Almy street, from Penn to Gesler.....	688 25
Meador street, from Almy to Tobey.....	782 86
Westfield street, from Harrison to Dexter.....	427 67
Angell street, from Butler avenue to Wayland.....	1,160 45
Taber avenue, from 100 feet north of Humboldt to Irving.....	635 17
Mathewson street, from Sabin to Cove.....	422 83
Pawtucket avenue, from Cemetery street to city line.....	4,423 76
Covell street, from Atwell's avenue to Amherst street.....	930 79
Florence street, from Manton avenue to Amherst street.....	1,704 71
Oxford street, from Plain to Miner.....	1,352 37
North Davis street, from Douglas avenue to old city line.....	298 71
Bates street, from Mallett to Riley.....	1,391 25
Farthing street, from Bridge to South Water.....	537 86
Daboll street, from Udpike to Public.....	894 05
Colwell street, from Plain to Prairie avenue.....	1,709 23
Chalkstone avenue, from Academy to River.....	2,342 80
Riley street, from Bates to Lippitt.....	329 12
Waterman street, adjoining land of American Ship Windlass Co.....	43 87
	<hr/> \$22,173 04

During the quarter the following work was completed :

#### SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

Feb. 20, 1890, *Atwell's avenue, adjoining estate of William H. Knott.*

“ 27, “ *Atwell's avenue, adjoining estate of Catharine Paisley.*

## CULVERTS BUILT.

712. Dec. 26, 1889, *Across Dudley street to connect from Blackstone to Plain and extend from Blackstone street southwesterly.*

## FILLED.

- July 17, 1884, *Pond opposite works of the Nicholson File Company.*

## WORKED TO GRADE.

- Jan. 2, 1890, *Penn street, from Ridge to Almy.*

The following work was in progress March 31, 1890, viz.:

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

## Date of order.

- June 17, 1886, *Chalkstone avenue, from Academy to River:—one cross-walk to be laid and gutters concreted.*
- Nov. 18, 1886, *Ridge street, from west line of Tobey to Atwell's avenue:—curbing nearly all set.*
- Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue:—bank-wall well along; considerable grading has been done, some curbing set, and the roadway between Cove street and Brayton avenue built.*
- Nov. 17, “ *Daboll street, from Updike to Public:—finished except concreting gutters.*
- April 19, 1888, *Pomona avenue, from Academy avenue to Pemberton street:—curbing nearly all set.*
- June 21, “ *Vandewater street, from Douglas avenue to Branch avenue:—about one-half of the work has been done.*
- “ “ “ *Almy street, from Penn to Gesler:—curb-*

ing set and gutters paved; roadway to be built.

- Sept. 20, 1888, *Halsey street, from Brown to Prospect*:—work commenced.
- Oct. 18, “ *Erastus street, from Amherst to Atwell’s avenue*:—curbing set, gutters paved and roadway graveled.
- Nov. 22, “ *Taber avenue, from 100 feet north of Humboldt to north line of Irving*:—finished except cross-walks to be laid and gutters to be concreted.
- Dec. 20, “ *Colwell street, from Plain to Prairie avenue*:—finished except rolling.
- “ “ “ *Roanoke street, from end of curb to Mt. Pleasant avenue*:—about two-thirds done.
- April 18, 1889, *Updike street, from Daboll to Public and Peace to Moore*:—finished except concreting gutters.
- June 20, “ *Grove street, from Knight to Vinton*:—finished except concreting gutters.
- “ “ “ *Fremont street, from Ives to Gano*:—street to be rolled and cross-walk to be laid.

#### BANK WALL TO BE BUILT.

532. Sept. 24, 1889, *West Exchange street, about 500 feet*:—work being done under contract.

#### TO TAKE POSSESSION OF.

- April 13, 1889, *Ocean street, from Thurber’s avenue to Richardson street*:—a considerable portion of the grading has been done.
- Oct. 31, “ *Ocean street, from Richardson to Byfield*:—completed from Richardson to Colwell.



Oct. 31, 1889, *King street, from Manton avenue to Sheridan street*:—work commenced.

Dec. 26, “ *Dexter street, from Cromwell to Potter's avenue*:—work commenced.

TO BE PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.

Date of order.

Oct. 14, 1886, *Transit street, from Ives to Gano*:—some work has been done under this order.

TO BE BROUGHT TO GRADE.

Feb. 27, 1890, *Dexter street, from Cromwell to Potter's avenue*:—work commenced between Long Pond and Potter's avenue.

TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also, sewer in said street*:—work being done under contract.

274. June 13, 1889, *Smith street, from Ruggles to the city line*: — about three-quarters done.

The following work ordered by the board of aldermen and city council had not commenced March 31, 1890, viz.:

SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

Dec. 15, 1887, *Transit street, from Ives to Gano*.

Mar. 15, 1888, *Howe street, from Fenner avenue 450 feet easterly*.

April 19, “ *Lilac street, from Brattle to Salem*.

- Sept. 20, 1888, *Darling street, from McKenna to West River.*
- Oct. 18, " *Jackson avenue, from Potter's avenue to Beckwith.*
- Dec. 20, " *Atlantic street, from Broad to Niagara.*
- " " " *Adelaide avenue, from Niagara to Melrose street.*
- " " " *Dahlia, from Cranston to Brattle.*
- " " " *Franklin avenue, from Chalkstone avenue to Vale street.*
- April 18, 1889, *Dahlia street, from Brattle to Salem.*
- May 16, " *Tanner street, from Pearl to Dudley.*
- June 20, " *Admiral street, from Douglas avenue to Mowry street.*
- " " " *Congress street, from Broad to Melrose.*
- " " " *Ruggles street, from Chalkstone avenue to Smith.*
- " " " *Butler avenue, from Blackstone park to President avenue.*
- Oct. 17, " *Gay street, from Willard avenue to Dudley street.*
- " " " *Pettis street, from North Main to Moshassuck river.*
- " " " *Robinson street, from Prairie avenue to Gay street.*
- Nov. 21, " *Frank street, from Beacon to Prairie avenue.*
- " " " *Thurber's avenue, from west end of curb to Broad street.*
- Dec. 19, " *South Angell street, from end of curb to East River street.*
- " " " *Bogman street, from Plain to Hilton.*
- " " " *Joslin street, from Atwell's to Manton avenues.*
- " " " *Villa avenue, from Taber to Arlington.*

- Feb. 20, 1890, *Thayer street, east side, from Power Williams.*
- “ 27, “ *Gesler street, from St. James' Church Ridge street.*
- March 20, “ *Dover street, from Mount Pleasant avenue to Carleton street.*
- “ “ “ *Gladstone street, from Broad to Baxter.*
- “ “ “ *Hannah street, from Amherst to Amsterdam.*
- “ “ “ *North Main street, from Olney to Randall.*
- “ “ “ *Penn street, from Almy to Ridge.*
- “ “ “ *Plain street, from Potter's avenue to Pavilion avenue.*
- “ “ “ *Washburn street, from Common to Orms-*

### TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Ear*  
 “ 13, 1887, *Transit street, from Ives to Gano.*  
 Apr. 13, 1889, *Eddy street, from railroad bridge Broad street.*
285. June 14, “ *Lot on Jackson avenue, belonging to Rachel Paine.*
- “ 20, “ *Manton avenue, near junction of Chalkstone avenue.*
- Sept. 19, “ *Olney street, from East avenue easterly and northerly.*

### GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

Date of order.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain street.*

## TO BE BUILT.

577. Nov. 7, 1889, *Jenkins street, from North Main to Camp.*

## TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*  
 269. May 21, " *Greenwich street, from near Sprague to Public.*  
 573. Nov. 7, " *North Main street, from Olney to Randall.*  
 576. " " " *Back street, from Orms to Smith.*  
 668. Dec. 2, " *Friendship street, from Chestnut to Beacon avenue.*

## GUTTERS TO BE CONCRETED.

558. Oct. 23, 1889, *Waterman street.*  
 600. Nov. 7, " *Angell street.*

## TO BE REPAIRED AT EXPENSE OF CITY.

June 20, 1889, *Villa avenue, from Arlington to Taber.*

## SIDEWALKS TO BE CONCRETED.

92. Feb. 25, 1890, *Academy avenue, adjoining school estate.*

## CURBSTONES TO BE RESET.

- Mar. 8, 1890, *Thayer street, from Transit to Williams.*  
 " " " *John street, from Benefit to Governor.*

Bills approved on account of highways from January 1 to March 31, 1890, inclusive, amounted to :

Regular appropriation.....	\$39,664 81	
Special appropriation under chapter xci.....	5,040 38	
Appropriation for West Exchange street retaining wall, 4,246 39		
		<b>\$48,951 58</b>

## Classified as follows :

Stone—paving and crosswalk.....	\$8,363 29	
Crushed stone—material and labor.....	6,693 44	
Cleaning streets.....	5,173 08	
Barn expenses.....	1,775 97	
Screening gravel.....	1,761 21	
Salaries—superintendent and clerks.....	1,435 00	
Labor on materials.....	1,357 53	
Removing snow and ice.....	1,207 75	
Blacksmith and wheelright shop.....	1,135 53	
Steam rollers—repairs and supplies.....	985 06	
Tools, implements, etc.....	771 45	
Repairs on stone crushers.....	535 66	
Watchman at city yard.....	340 20	
Repairs on unpaved streets.....	322 11	
Horses, wagons, harnesses, etc.....	321 91	
Sundries.....	115 78	
Repairs on paved streets.....	34 47	
Office expenses, city yard.....	26 71	
Fencing streets.....	25 67	
Telephone lines.....	1 00	
		<b>\$32,382 82</b>

NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Atwell's avenue</i> , corner Erastus street, 40 feet east- erly.....	\$ 18 43	
<i>Atwell's avenue</i> , corner Erastus street, adjoining estate Catherine Paisley.....	39 66	
<i>Colwell street</i> , from Plain to Prairie avenue.....	1,513 50	
<i>Erastus street</i> , from Amherst to Atwell's avenue....	1,396 04	
<i>Fremont street</i> , from Ives to Gano.....	1,315 06	
<i>Halsey street</i> , from Brown to Prospect.....	289 39	
<i>Pomona avenue</i> , from Academy to Pemberton street, <i>Ridge street</i> , from Tobey to Atwell's avenue.....	327 12	
	1,109 44	
<i>Vandewater street</i> , from Branch avenue to Douglas, <i>West Exchange street</i> , from Cove to Ridge.....	200 01	
	3,526 88	
		<b>9,735 53</b>

## TO BE BUILT.

<i>Smith street</i> , from Ruggles street to city line.....	67 99	
Amount carried forward.....		<b>\$42,186 34</b>

Amount brought forward.....\$42,186 34

TAKE POSSESSION OF.

*Dexter street*, from Cromwell to Potter's avenue.....\$562 25  
*Ocean street*, from Richardson to south line of Byfield.. 94 95 657 20

TO BE BROUGHT TO GRADE.

*Olney street*, from East avenue, easterly and northerly..\$ 2 25  
*Penn street*, from Ridge to Almy..... 589 94  
 592 19

REPAIRING FOUNTAIN.

*Gay street*.....190 47

BUILDING RETAINING WALL.

*West Exchange street*..... 4,246 39

SIDEWALKS CONCRETED.

*Oxford street*, adjoining school-house..... 29 45

BUILDING CULVERTS.

*Dudley street*, between Plain and Culver, etc..... 1,049 53  
 \$48,951 58

Bills deposited with the city treasurer for collection, from January 1 to March 31, 1890, inclusive, amounted to . . . . \$1,158 49

As follows :

Labor and materials.....\$773 74  
 Street sweepings..... 331 00  
 Manure from barn..... 53 75  
 \$1,158 49

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$1,086 31

As follows :

Labor and materials.....\$701 56  
 Street sweepings..... 331 00  
 Manure from barn..... 53 75  
 \$1,086 31

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The expenditures on account of sidewalks and curbing, from January 1 to March 31, 1890, inclusive, amounted to . . . . \$4,670 86

Curbing bills deposited with the city treasurer for collection, from January 1 to March 31, 1890, inclusive, amounted to . . . . 30,599 79

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, amounting to . . . 5,447 72

JOHN A. COLEMAN,  
*Commissioner.*

1890.]

CITY DOCUMENT.

[No. 24.]

THIRTIETH  
QUARTERLY REPORT  
OF THE  
DEPARTMENT OF PUBLIC WORKS  
OF THE  
CITY OF PROVIDENCE, R. I.

QUARTER ENDING JUNE 30, 1890.



The Providence Press:  
SNOW & FAIRBANKS, CITY PRINTERS,  
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# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., July 1, 1890. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter IV. of the ordinances, the Commissioner of Public Works respectfully presents the thirtieth quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending June 30, 1890.

## WATER WORKS.

It had been known from the time the Fruit Hill reservoir was first put into service, that a largely increased amount of water needed to be pumped into the city.

An examination of all probable opportunities for leakage was made, without finding any reason for this increased demand for water.

The Fruit Hill reservoir was still under the control of the engineer who had constructed it.

The Department of Public Works was not informed as to the use or the demand for water at the reservoir, except that it was observed that the high-service engines were run about as much in excess of the usual demand as were the engines at Pettaconset.

A communication was addressed to the City Engineer late in January, asking if he could explain the reason for this increased demand for water.

The Engineer replied on the 4th of February, 1890; saying: "I know of no leaks of any description whatever in connection with the Fruit Hill reservoir."

Notwithstanding this, the demand for water continued and steadily increased.

Early in May, when the engineering department was placed in charge of this Department, it was found that the leakage of Fruit Hill reservoir was excessive, amounting to more than 900,000 gallons per day. After experiments had been made to determine the rate of leakage and its behavior under different heads of water in the reservoir, the reservoir was entirely drained and the interior examined.

Large and striking depressions were observed in the slopes, the large granite blocks having dropped a considerable distance out of position, and showing the loss of many cubic yards of earth from the embankments.

The damage was evidently so serious that a consultation of engineers was called, and thorough examination and experiments were made.

It was found that the entire lining of the reservoir was porous, and that it was underlaid with a loose, seamy ledge, through the seams of which the water from the porous lining freely passed away, carrying with it the finer portions of the lining material.

The conclusion reached by the City Engineer and the consulting engineers was, that nothing short of an entire reconstruction of the reservoir lining could be depended upon to render the Fruit Hill reservoir fit for proper service, and they recommended that this be done.

Accordingly, the recommendation and correspondence were transmitted to the City Council, June 23, 1890, action upon which is now awaited.

The average daily consumption of water during the last quarter was 6,784,722 gallons.

## Water pipes were laid during the quarter, as follows :

## 20-INCH.

In Adelaide avenue.....	1,450.00 feet.
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## 12-INCH.

In Gaspee and Smith streets and Douglas avenue.....	1,101.44 feet
---	---------------

## 8-INCH.

In Charles street, Congress and Douglas avenues.....	2,176.66 feet.
--	----------------

## 6-INCH.

In Alton, Arcade, Brewster, Charles, Dale, Douglas, Dudley, Fairview, Forest, Gaspee, Gay, Gesler, Grandview, Ham- ilton, Hassan, Hudson, Huron, Lafayette, Melrose, Nor- folk, Penn, Ridge, River, Seamans, Sixth, Sullivan, Tan- ner, Tiffany, West Exchange, Willow and Wood streets, Branch, Cambridge, Congress, Douglas, Mechanics, Mount Pleasant, Regent, Villa and Yale avenues.....	9,490.05 feet.
---	----------------

Total.....	14,218.15 feet,
------------	-----------------

or 2.69+ miles.

## Water pipes were removed during the quarter, as follows :

## 10-INCH.

In Gaspee street.....	286.34 feet.
-----------------------	--------------

## 6-INCH.

In Adelaide avenue.....	427.00 feet.
-------------------------	--------------

Total.....	713.34 feet,
------------	--------------

or .135+ miles.

Statement of sizes and lengths of pipes laid since the  
commencement of the work :

36-inch.....	10,084.	feet.
30-inch.....	59,637.	feet.
24-inch.....	43,418.92	feet.
20-inch.....	8,304.80	feet.
16-inch.....	31,746.36	feet.
12-inch.....	67,965.76	feet.
10-inch.....	14,471.76	feet.
8-inch.....	166,624.07	feet.
6-inch.....	762,676.90	feet.

Total.....	1,164,929.57	feet,
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or 220.63+ miles.

Seventeen fire hydrants were set during the quarter, one in each of the following locations :

Adelaide avenue, north side, east corner Melrose street.  
 Charles street, east side, north corner of Peter street.  
 Charles street, east side, opposite south line of Hagan street.  
 Congress avenue, south side, west corner of Hamilton street.  
 Custom House street, corner of Weybosset street.  
 Dale street, east side, south corner of West Exchange street.  
 Douglas avenue, northeast side, about 70 feet northwest of Henrietta street.  
 Gay street, east side, opposite north line of Robinson street.  
 Grand View street, north side, at the angle in said street.  
 Hamilton street, west side, south corner of Public street.  
 Ridge street, east side, south corner of Gesler street.  
 Tanner street, at northeast corner of Somerset street.  
 West Exchange street, north side, about 280 feet west of Brayton avenue.  
 West Exchange street, north side, opposite Sutton street.  
 West Exchange street, north side, about 160 feet west of McAvoy street.  
 Westminster street, northwest corner of Arcade street.  
 Wood street, north side, about 310 feet west of Ellery street.

The total number of fire hydrants is now thirteen hundred and forty-five : thirteen hundred and thirty-four flush and eleven post hydrants.

Work had not commenced upon laying water pipes in the following streets, June 30, 1890, viz. :

No. of resolution. Date of approval.

365.	July 18,	1888,	<i>Mount Pleasant avenue, extension from Chalkstone avenue to Smith street.</i>
670.	Dec. 2,	1889,	<i>Lloyd and Slater avenues.</i>
81.	Feb. 25,	1890,	<i>Rocky Hill avenue, Johnston, from Cleveland street, northerly.</i>
150.	Mar. 25,	"	<i>Johnston street, Johnston, from Webster avenue, easterly.</i>
189.	Apr. 19,	" "	<i>Dyer avenue, Johnston, from West Park street, to 50 feet southwest of Randall avenue.</i>

216.	Apr. 19,	1890,	<i>Roger Williams avenue, from Curtis street, southerly.</i>
270.	May 7,	"	<i>Smith street, from Eaton street, westerly.</i>
289.	" 20,	"	<i>Greenwood street, Cranston, from Park avenue, southerly.</i>
320.	" 27,	"	<i>Elmwood and Summit streets.</i>
321.	" "	"	<i>Frederick street, from Chalkstone avenue, northerly.</i>
324.	" "	"	<i>Touro street, from end of pipe, southerly.</i>
363.	June 2,	"	<i>Linwood avenue, westerly.</i>
364.	" "	"	<i>Merchant street, from Branch avenue, southwesterly.</i>
365.	" "	"	<i>Roger Williams Park.</i>
404.	" 21,	"	<i>Ayrault street, from Chalkstone avenue to Valley street.</i>
405.	" "	"	<i>Felix street, from Chalkstone avenue to Valley street.</i>

During the quarter one hundred and fifty water meters were set, of which number eight were to replace other meters. The use of three meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	3,013	588	144	41	6	.....	.....	3,792
Ball & Fitts, rotary.....	.....	.....	22	25	3	5	3	58
Crown.....	4,207	608	153	65	20	6	4	5,063
Fales, Jenks & Sons.....	3	2	1	.....	.....	.....	.....	6
Worthington.....	24	1	.....	.....	1	.....	1	27
	7,247	1,194	320	131	30	11	8	8,946



One plumber's license was issued during the quarter, making the total number sixty-three, all of which expire December 31, 1890.

Seven hundred and sixty permits to do plumbing work were issued during the quarter.

Two hundred and seven applications for water were made during the quarter, making the total number June 30, 1890, sixteen thousand and eighty-five.

The number of new service stops opened during the quarter was one hundred and ninety-nine.

The total number of service stops opened to June 30, 1890, inclusive, was fifteen thousand four hundred and twenty-four. The number in actual use June 30, 1890, was fourteen thousand five hundred and forty.

The amount of bills approved on account of water works from April 1 to June 30, 1890, inclusive, was

For construction and extension, . . . \$28,050 14

Classified as follows :

Fruit Hill reservoir, for repairs.....	\$791 22
Fruit Hill reservoir, for construction.....	255 65
Cast-iron water pipe.....	12,183 23
Laying water pipes.....	3,880 00
Fire hydrants, boxes and covers.....	3,540 46
Special castings.....	2,061 19
Taps and stops.....	1,316 20
Stop valves.....	1,072 50
Laying service pipes.....	950 82
Rent of wharf and pipe yard.....	625 00
Horses, wagons, harnesses, etc.....	538 69
Labor on and carting pipes.....	469 73
Wharf salaries.....	153 23
Barn expenses.....	121 57
Tools.....	90 66
	<hr/>
	\$28,050 14

For maintenance, . . . . . \$15,116 37

Classified as follows :

PETTACONSET PUMPING STATION.

Sundries.....	\$672 53	
Engineers.....	625 00	
Firemen.....	497 92	
Care of grounds.....	292 68	
Coal and wood.....	292 26	
Superintendence.....	250 00	
Lights.....	184 75	
Labor on fuel.....	129 45	
Oil, waste and packing.....	116 91	
Cornish pumping engine.....	83 29	
Cornish engine house.....	73 59	
Barn expenses.....	52 63	
Corliss pumping engine and house.....	39 85	
Real estate.....	11 78	
		<u>\$3,322 64</u>

SOCKANOSSET RESERVOIR.

Watchman.....	\$136 50	
Sundries.....	43 37	
		<u>\$179 87</u>

HOPE PUMPING STATION.

Engineers.....	\$700 00	
Firemen.....	420 00	
Care of grounds.....	376 51	
Sundries.....	133 39	
Lights.....	85 75	
Hope pumping engine, No. 1.....	26 77	
Oil, waste and packing.....	23 86	
Hope pumping engine, No. 2.....	1 41	
		<u>\$1,767 69</u>

HOPE RESERVOIR.

Watchman.....	\$204 75	
Sundries.....	12 85	
		<u>\$217 60</u>
Amount carried forward.....		<u>\$5,487 80</u>

Amount brought forward.....		\$5,487 80
-----------------------------	--	------------

**PIPE LINE AND SERVICE STOPS.**

Repairs.....	\$660 50	
Superintendence—salaries.....	650 00	
		<u>\$1,310 50</u>

**METER DEPARTMENT.**

Water meters.....	\$3,034 07	
Setting and repairing meters.....	908 28	
		<u>\$3,942 35</u>

**MISCELLANEOUS.**

Clerks' and inspectors' salaries.....	\$3,073 83	
Prevention of defilement of the Pawtuxet.....	408 36	
Telephone lines.....	313 11	
Barn expenses.....	262 21	
Horses, wagons, harnesses, etc.....	130 35	
Analyses of water.....	97 06	
Sundries.....	50 79	
Real estate at Pawtuxet.....	17 50	
Fruit Hill reservoir, for sundries.....	8 84	
Pipe yard, office expenses.....	8 50	
Public drinking fountains and troughs.....	5 18	
		<u>4,375 73</u>
		<u>\$15,116 37</u>

The amount of expenditures from April 1 to June 30, 1890, inclusive, was . . . \$43,166 51

The total expenditures to June 30, 1890, inclusive, were . . . \$7,041,442 27

The <i>net</i> expenditure for construction and extension from April 1 to June 30, 1890, inclusive, was.....	\$27,526 60
The <i>net</i> expenditure for construction and extension to June 30, 1890, inclusive, was.....	5,566,092 48
The <i>net</i> expenditure for maintenance from April 1 to June 30, 1890, inclusive, was.....	10,959 10
The <i>net</i> expenditure for maintenance to June 30, 1890, inclusive, was.....	947,173 52

Bills deposited with the city treasurer for collection from April 1 to June 30, 1890, inclusive, amounted to . . . \$41,550 50

As follows :

Water.....	\$37,201 31
Water meters.....	2,699 50
Setting and repairing water meters.....	1,000 73
Rent of real estate.....	110 43
Joseph C. Congdon and others, for ice at Pettaconset.	62 60
Clippings, etc., meter department.....	38 78
Permanently closing service stops.....	25 00
Penalties.....	18 00
Packing boxes from meter department.....	12 50
Labor and materials, laying service pipes, etc.....	256 25
Cast iron water pipe.....	91 91
Horse.....	25 00
Wharfage.....	8 49
	<u>\$41,550 50</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and re-  
 ceipted for, amounting to . . . \$46,314 89

As follows :

Water.....	\$41,847 08
Water meters.....	2,706 50
Setting and repairing water meters.....	1,059 17
Rent of real estate.....	260 52
Joseph C. Congdon and others, for ice at Pettaconset.	62 60
Clippings, etc., meter department.....	38 78
Permanently closing service stops.....	20 00
Penalties.....	18 00
Packing boxes from meter department.....	12 50
Labor and material, laying service pipes, etc.....	256 25
Horse.....	25 00
Wharfage.....	8 49
	<u>\$46,314 89</u>

## SEWERS.

During the quarter ending June 30, 1890, one hundred and eighty-two permits were issued to drain layers; one hundred and twenty-nine for new work, and fifty-three for extension and repair of drains.

Four drain-layer's licenses were issued during the quarter, making the total number twenty-four, all of which expire December 31, 1890.

April 21st, proposals for furnishing 1,000,000 bricks for improved sewerage system were opened, and all subsequently rejected.

May 30th, proposals for furnishing from 1,000,000 to 12,000,000 bricks for the improved sewerage system were opened, and all subsequently rejected.

April 23d, contracts for the construction of sewers, which were subsequently signed, were awarded as follows, namely :

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include cost of inspection and materials, or rock excavation.]

## TO FREDERICK E. SHAW.

No. of resolution.    Date of approval.

580.	Nov. 7, 1889,	<i>Common street, from Davis to Mulberry,</i>	\$527 05
602.	“ “ “	<i>Western street, from Pleasant to Jenkins,</i>	303 70
168.	April 9, 1890,	<i>Doyle avenue, from East avenue, easterly,</i>	370 48

## TO JOHN KEOGH.

No. of resolution. Date of approval.

581.	Nov. 7, 1889,	<i>Randall street, from Print- ery to Randall square, .</i>	\$781 90
582.	" " "	<i>Tobey street, from High to Broadway, . . . .</i>	1,701 90
613.	" 16, "	<i>Doyle avenue, from Camp street to East avenue, .</i>	396 30
638.	" 21, "	<i>Villa avenue, from Taber to Arlington, . . .</i>	444 90
169.	April 9, "	<i>High street, from Almy to Tobey, . . . .</i>	1,259 20

June 28th, contracts for the construction of the following sections of the "Improved Sewerage System" were awarded, which have since been signed, as follows, viz.:

## TO EVERSON &amp; LIDDLE.

Outfall sewer in Disposal Division, Section 1,	\$28,328 90
Intercepting sewer in Elmwood Division, Sec- tion 5, . . . . .	59,358 60
Intercepting sewer in Elmwood Division, Sec- tion 6, . . . . .	71,968 70
Intercepting sewer in Elmwood Division, Sec- tion 7, . . . . .	48,932 70
Intercepting sewer in Elmwood Division, Sec- tion 8, . . . . .	45,557 00
Intercepting sewer in Elmwood Division, Sec- tion, 9, . . . . .	40,774 25
Total, . . . . .	<u>\$294,920 15</u>

During the quarter the construction of the following sewers was completed, namely:

No. of resolution.	Date of approval.		Date of completion.
432.	Sept. 10, 1887,	<i>West Exchange street, from Brayton avenue to and across Atwell's avenue to Ridge street, and in Ridge street, from Atwell's avenue to Tobey street,</i>	June 14, 1890.
406.	July 15, 1889,	<i>Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5, improved sewerage,</i>	June 30, 1890.
425.	Aug. 8,    “	<i>Grove and Knight streets, and Atwell's avenue, from Courtland to West Exchange,</i>	May 17, 1890.
580.	Nov. 7, 1889,	<i>Common street, from Davis to Mulberry,</i>	May 19, 1890.
581.	“    “    “	<i>Randall street, from Printery to Randall square,</i>	May 14, 1890.
582.	“    “    “	<i>Tobey street, from High to Broadway,</i>	June 3, 1890.
602.	“    “    “	<i>Western street, from Pleasant to Jenkins,</i>	June 7, 1890.
638.	“   21,   “	<i>Villa avenue, from Arlington to Taber,</i>	May 7, 1890.
71.	Feb. 25, 1890,	<i>Office-building and shed at Field's Point,</i>	April 11, 1890.
168.	April 9,    “	<i>Doyle avenue, from East avenue easterly, to change of grade in said Doyle avenue,</i>	June 25, 1890.
169.	“    “    “	<i>High street, from Almy to Tobey,</i>	June 18, 1890.

June 30th, work was in progress upon the following sewer, namely :

No. of resolution.   Date of approval.

613.   Nov. 16, 1889.   *Doyle avenue, from Camp street to East avenue.*

Work upon the following sewers, completing the list ordered by the city council, had not commenced June 30, 1890, viz. :

No. of resolution.	Date of approval.	
233.	May 1, 1890,	<i>Arthur avenue, from Kenyon to Asia street.</i>
259.	" 7, "	<i>Smith street, from end of sewer, westerly.</i>
337.	" 27, "	<i>Parade street, from Willow to High.</i>
351.	June 2, "	<i>Charles street, from West River to Ashburton.</i>
352.	" " "	<i>Mulberry street, from Cherry to Common.</i>
353.	" " "	<i>Whipple and Oregon streets.</i>
354.	" " "	<i>Penn street, from Almy to Ridge.</i>
393.	" 21, "	<i>Arlington avenue, from Irving to Angell street.</i>
394.	" " "	<i>Joslin street and Manton avenue.</i>
395.	" " "	<i>Harvard avenue, from Taylor street, westerly.</i>

Bills approved on account of sewers from April 1 to June 30, 1890, inclusive, amounted to

For construction, regular appropriation, . . . . .	\$19,483 87	
Special appropriation, improved sewerage, . . . . .	10,568 19	
		<u>\$30,052 06</u>

Charged as follows :

Materials.....	\$4,799 78
Clerk's salary.....	231 00
Testing cement.....	144 25
Sundries, improved sewerage system.....	55 99
Tools.....	5 09
Amount carried forward.....	<u>\$5,236 11</u>



Amount brought forward.....	\$5,236 11
Sundries.....	\$2 15
Sewer in Almy and Gesler streets.....	17 75
Sewer in Common street, from Mulberry to Davis...	552 11
Sewer in Doyle avenue, from East avenue, easterly..	954 39
Sewer in Doyle avenue, from near East avenue to Camp street.....	1,028 53
Sewer in Grove and Knight streets and Atwell's avenue.....	3,706 94
Sewer in High street, from Almy to Tobey.....	1,360 61
Sewer in Randall street, from Printery to Randall square.....	839 93
Sewer in Ring street, from Almy to Tobey.....	5 50
Sewer in Tobey street, from High to Broadway....	1,873 11
Sewer in Villa avenue, from Arlington to Taber....	487 02
Sewer in Western street, from Pleasant to Jenkins..	719 46
Sewer in West Exchange and Ridge streets.....	2,173 25
Excavation in Disposal Division, Sections 2 and 3, and Elmwood Division, Section 5.....	9,901 20
Field's Point, office-building and shed.....	611 00
Contract reservations.....	583 00
	<hr/>
	\$30,062 06

For maintenance, . . . . . 5,860 69

Charged as follows :

Cleaning basins and sewers.....	\$2,871 13
Repairing basins and sewers.....	613 99
Cleaning and repairing old drains.....	386 77
Tools.....	602 72
Barn expenses.....	404 71
Salary—superintendent.....	350 00
Horses, wagons, harnesses, etc.....	263 43
Inspection of connections.....	250 00
Cleaning private connections.....	55 13
Filling cisterns, etc.....	27 94
Sundries.....	18 37
Telephone lines.....	16 50
	<hr/>
	\$5,860 69

The net expenditure for construction of sewers to June 30, 1890, inclusive, was.....	\$2,047,601 34
The net expenditure for maintenance of sewers to June 30, 1890, inclusive, was.....	306,041 05

Bills deposited with the city treasurer for collection, from April 1 to June 30, 1890, inclusive, amounted to . . . . . \$120 40

As follows :

Cleaning private connections.....	\$46 25
Repairing private drain.....	27 53
Filling cisterns, etc.....	19 20
Providence Cable Tramway Co., for drain work....	14 58
Making connection to sewer.....	2 78
Old hose.....	68
Private drains laid in streets.....	9 38
	<hr/>
	\$120 40

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$117 62

As follows :

Cleaning private connections.....	\$46 25
Repairing private drain.....	27 53
Filling cisterns, etc.....	19 20
Providence Cable Tramway Co., for drain work....	14 58
Old hose.....	68
Private drains laid in streets.....	9 38
	<hr/>
	\$117 62

## HIGHWAYS.

Nine permits to open streets were issued during the quarter.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows, viz :

Fremont street, from Ives to Gano.....	\$857 90
Erastus street, from Amherst to Atwell's avenue.....	730 56
Atwell's avenue, from Erastus street easterly.....	28 54
Atwell's avenue, from Erastus street westerly.....	28 58
	<hr/>
	\$1,645 58

June 18th, an offer of the Rhode Island Concrete Company to dress the pavement around the city hall with asphaltic top-dressing for the sum of seventy-five cents per square yard, was accepted.

June 19th, an offer of F. H. Peabody & Son to erect a fence on the bank wall on West Exchange street for the sum of one and  $\frac{10}{100}$  dollars (\$1.10) per lineal foot, was accepted.

During the quarter the following work was completed:

SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

June 17, 1886, *Chalkstone avenue, from Academy to River.*

Nov. 18, " *Ridge street, from west line of Tobey to Atwell's avenue.*

Nov. 17, 1887, *Daboll street, from Updike to Public.*

June 21, 1888, *Vandewater street, from Douglas avenue to Branch avenue.*

" " " *Almy street, from Penn to Gesler.*

Sept. 20, " *Darling street, from McKenna to West River.*

" " " *Halsey street, from Brown to Prospect.*

Oct. 18, " *Erastus street, from Amherst to Atwell's avenue.*

Nov. 22, " *Taber avenue, from 100 feet north of Humboldt to north line of Irving.*

Dec. 20, " *Colwell street, from Plain to Prairie avenue.*

April 18, 1889, *Updike street, from Daboll to Public and Peace to Moore.*

June 20, " *Grove street, from Knight to Vinton.*

" " " *Fremont street, from Ives to Gano.*

Feb. 27, 1890, *Gesler street, from St. James' Church to Ridge street.*

May 7, " *Adjoining new Police Station corner Chaffee and Capron streets.*

March 20, " *North Main street, from Olney to Randall.*

**BANK WALL BUILT.**

532. Sept. 24, 1889, *West Exchange street, about 500 feet.*

**PUT IN CONDITION SAFE AND CONVENIENT FOR  
PUBLIC TRAVEL.**

*Date of order.*

Oct. 14, 1886, *Transit street, from Ives to Gano.*

**BROUGHT TO GRADE.**

June 20, 1889, *Manton avenue, near junction of Chalkstone avenue.*

Sept. 19, " *Olney street, from East avenue easterly and northerly.*

**REPAIRED AT EXPENSE OF CITY.**

June 20, 1889, *Villa avenue, from Arlington to Taber.*

April 17, 1890, *Prospect alley, from Hope street to Brook.*

**SIDEWALKS CONCRETED.**

92. Feb. 25, 1890, *Academy avenue, adjoining school estate.*

**PAVED WITH GRANITE BLOCKS.**

*No. of resolution. Date of approval.*

576. Nov. 7, 1889, *Back street, from Orms to Smith.*

**CURBSTONES RESET.**

Mar. 8, 1890, *Thayer street, from Transit to Williams.*

**FILLED.**

May 1, 1890, *Approach to Manton avenue bridge.*

## GUTTERS CONCRETED.

May 7, 1890, *Broad street, from Friendship to Public.*

The following work was in progress June 30, 1890, viz. :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue:—nearly completed.*

April 19, 1888, *Lilac street, from Brattle to Salem:—completed except concreting gutters.*

“ “ “ *Pomona avenue, from Academy avenue to Pemberton street:—crosswalk to be laid.*

Dec. 20, “ *Roanoke street, from end of curb to Mt. Pleasant avenue:—about two-thirds done.*

“ “ “ *Dahlia street, from Cranston to Brattle:—curbing set, gutter paved and roadway being graveled.*

April 18, 1889, *Dahlia street, from Brattle to Salem:—crosswalk to be laid and gutters concreted.*

May 16, “ *Tanner street, from Pearl to Dudley:—curbing set and gutters paved.*

June 20, “ *Ruggles street, from Chalkstone avenue to Smith:—curbing set and gutters paved.*

Oct. 17, “ *Gay street, from Willard avenue to Dudley street:—finished except rolling.*

“ “ “ *Robinson street, from Prairie avenue to Gay street:—crosswalk to be laid and gutters concreted.*

Nov. 21, “ *Frank street, from Beacon to Prairie avenue:—gutters to be concreted.*

Dec. 19, “ *Bogman street, from Plain to Hilton:—finished except concreting gutters.*

“ “ “ *Villa avenue, from Taber to Arlington:—crosswalk to be laid.*

•

TO TAKE POSSESSION OF.

- April 13, 1889, *Ocean street, from Thurber's avenue to Richardson street*:—a considerable portion of the grading has been done.
- Oct. 31, “ *Ocean street, from Richardson to Byfield*:—nearly completed.
- “ “ “ *King street, from Manton avenue to Sheridan street*:—work commenced.
- Dec. 26, “ *Dexter street, from Cromwell to Potter's avenue*:—work being done.

TO BE BROUGHT TO GRADE.

- Feb. 13, 1887, *Transit street, from Ives to Gano*:—a large part done.
- “ 27, 1890, *Dexter street, from Cromwell to Potter's avenue*:—work in process.
- May 15, 1890, *Lots on Transit street*:—a portion graded.

TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street*:—work being done under contract and nearly completed.
274. June 13, 1889, *Smith street, from Ruggles to the city line*:—about three-quarters done.

TO BE MACADAMIZED.

- June 2, 1890, *Power street, from Carrington lane to Governor street*:—work commenced.

CURBSTONES TO BE RESET.

- Mar. 8, 1890, *John street, from Benefit to Governor*:—completed from Benefit to Thayer.

•

**TO BE PAVED WITH GRANITE BLOCKS.**

**No. of resolution.    Date of approval.**

573.    Nov. 7, 1889, *North Main street, from Olney to Randall*:—about three-quarters done.

•

**HOUSE TO BE RAISED AND LOT GRADED.**

April 19, 1890, *House of heirs of Fergus McGolrick*:—work nearly completed.

•

**FENCE TO BE BUILT.**

May 15, 1890, *On West Exchange street bank-wall*:—work being done.

The following work, ordered by the board of aldermen and city council, had not commenced June 30, 1890, viz. :

•

**SIDEWALKS TO BE CURBED AND GUTTERS PAVED.**

**Date of order.**

Dec. 15, 1887, *Transit street, from Ives to Gano.*

Mar. 15, 1888, *Howe street, from Fenner avenue 450 feet easterly.*

Oct. 18,    “    *Jackson avenue, from Potter’s avenue to Beckwith.*

Dec. 20,    “    *Atlantic street, from Broad to Niagara.*

“    “    “    *Adelaide avenue, from Niagara to Melrose street.*

“    “    “    *Franklin avenue, from Chalkstone avenue to Vale street.*

June 20, 1889, *Admiral street, from Douglas avenue to Mowry street.*

“    “    “    *Congress street, from Broad to Melrose.*

“    “    “    *Buller avenue, from Blackstone park to President avenue.*

Oct. 17,    “    *Pettis street, from North Main to Moshassuck river.*

- 21, 1889, *Thurber's avenue, from west end of curb to Broad street.*
- 19, " *South Angell street, from end of curb to East River street.*
- " " *Joslin street, from Atwell's to Manton avenues.*
- 20, 1890, *Thayer street, east side, from Power to Williams.*
- 1 20, " *Dover street, from Mount Pleasant avenue to Carleton street.*
- " " *Gladstone street, from Broad to Baxter.*
- " " *Hannah street, from Amherst to Amsterdam.*
- " " *Penn street, from Almy to Ridge.*
- " " *Plain street, from Potter's avenue to Pavilion avenue.*
- " " *Washburn street, from Common to Orms.*
- 17, " *Hill street, from Harvard to Perry.*
- " " *Beaufort street, from Academy to Mount Pleasant.*
- " " *Hidden street, from Prospect to Brown.*
- " " *Hyatt street, from Amherst to Kossuth.*
- " " *La Vaughn street, from Atwell's avenue to Amherst street.*
- " " *Pemberton street, from Kendrick to Dover.*
- " " *Young avenue, from Smith street to Chalkstone avenue.*
- 15, " *Arthur avenue, from Kenyon to Asia street.*
- " " *Chalkstone avenue, from Smith to Ruggles street.*
- " " *Glenham street, from Broad to Prairie avenue.*
- " " *Swan street, from Ocean to Plain.*
- " " *Taylor street, from Public to Glenham.*
- 19, " *Atlantic street, from Niagara to Hamilton.*
- " " *Dudley street, from Prairie avenue to Plain.*
- " " *McKenna street, from Cross to Whelden.*
- " " *Charles street, adjoining Fire Station.*



### TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 Apr. 13, 1889; *Eddy street, from railroad bridge to*  
*Broad street.*
285. June 14, " *Lot on Jackson avenue, belonging to*  
*Rachel Paine.*
- Apr. 17, 1890, *Oregon street, from Fillmore to Borva.*  
 June 5, " *Manton avenue, from end of car track*  
*at Dyerville to Chalkstone avenue.*
- " " " *Bowdoin street, from Kossuth to*  
*Appleton.*

### GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.

Date of order.

- Nov. 22, 1888, *Dudley street, from Prairie avenue to Plain*  
*street.*

### TO BE BUILT.

577. Nov. 7, 1889, *Jenkins street, from North Main to*  
*Camp.*

### CURBING TO BE RESET.

- June 2, 1890, *Williams street, from South Main to Gov-*  
*ernor.*

### GUTTERS TO BE CONCRETED.

558. Oct. 23, 1889, *Waterman street.*  
 600. Nov. 7, " *Angell street.*

### TO BE PAVED WITH GRANITE BLOCKS.

No. of resolution. Date of approval.

51. Feb. 7, 1889, *Worcester street, from Eddy to Cove.*

269. May 21, 1889, *Greenwich street, from near Sprague to Public.*
668. Dec. 2, " *Friendship street, from Chestnut to Beacon avenue.*

## TO BE REPAIRED AT EXPENSE OF CITY.

April 3, 1890, *Promenade street, from Holden to Senter.*

DRIVEWAY TO BE PUT IN AND SIDEWALKS TO BE  
CONCRETED.

May 7, 1890, *Adjoining Fire Station corner Branch avenue and Charles street.*

## ROADWAY TO BE MACADAMIZED.

May 7, 1890, *Public street, Eddy to Prairie avenue.*

## TO BE REPAIRED.

May 21, 1890, *Roadway around City Hall.*

## TO BE REMOVED.

May 27, 1890, *Curbing on Cranston street at entrance to Linwood avenue and Althea street.*

Bills approved on account of highways  
from April 1 to June 30, 1890, inclusive,  
amounted to :

Regular appropriation.....	\$70,038 68	
Special appropriation under chapter xci.....	21,140 70	
Appropriation for West Exchange street retaining wall.....	4,243 18	
		<u>\$95,422 56</u>

## Classified as follows :

Repairs on unpaved streets.....	\$15,818 14	
Cleaning streets.....	13,812 71	
Stone—paving and crosswalk.....	6,455 86	
Crushed stone—material and labor.....	3,935 89	
Repairs on paved streets.....	2,031 13	
Barn expenses.....	1,557 25	
Salaries—superintendent and clerks.....	1,527 50	
Blacksmith and wheelwright shop.....	1,380 89	
Tools, implements, etc.....	1,010 44	
Horses, wagons, harnesses, etc.....	844 70	
Labor on materials.....	502 03	
Steam rollers—repairs and supplies.....	439 14	
Repairs on stone crushers.....	404 89	
Watchman at city yard.....	375 30	
Sundries.....	142 37	
Fencing streets.....	9 00	
Office expenses, city yard.....	45	
		\$49,747 69

NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.

<i>Adelaide avenue</i> , from Niagara street to Melrose....	\$108 50	
<i>Admiral street</i> , from Douglas avenue to Mowry street.....	258 55	
<i>Almy street</i> , from Penn to Gesler.....	333 05	
<i>Atlantic street</i> , from Broad to Niagara.....	70 70	
<i>Bogman street</i> , from Hilton to Plain.....	998 01	
<i>Chalkstone avenue</i> , from Academy to River.....	550 19	
<i>Colwell street</i> , from Plain to Prairie avenue.....	109 30	
<i>Congress street</i> , from Broad to Melrose.....	111 70	
<i>Covell street</i> , from Atwell's avenue to Amherst street.....	4 36	
<i>Daboll street</i> , from Updike to Public.....	156 73	
<i>Dahlia street</i> , from Cranston to Brattle.....	643 05	
<i>Dahlia street</i> , from Brattle to Salem.....	1,515 18	
<i>Darling street</i> , from McKenna to West River.....	526 54	
<i>Erastus street</i> , from Amherst to Atwell's avenue....	113 42	
<i>Frank street</i> , from Beacon avenue to Prairie.....	350 80	
<i>Fremont street</i> , from Ives to Gano.....	163 96	
<i>Gay street</i> , from Willard avenue to Dudley street....	980 49	
<i>Gesler street</i> , from St. James' Church to Ridge street.....	444 95	
<i>Grove street</i> , from Knight to Vinton.....	117 90	
<i>Halsey street</i> , from Brown to Prospect.....	818 63	
<i>Hove street</i> , from Fenner avenue 450 feet easterly...	11 50	
<i>Joslin street</i> , from Atwell's avenue to Manton.....	759 00	
<i>Lilac street</i> , from Brattle to Salem.....	1,283 73	
<i>Pomona avenue</i> , from Academy avenue to Pemberton street.....	456 14	
<i>Ridge street</i> , from Tobey to Atwell's avenue.....	1,090 59	
<i>Robinson street</i> , from Prairie avenue to Gay street...	1,284 91	
Amounts carried forward.....	\$13,261 88	\$49,747 69

Amounts brought forward.....	\$13,361 88	\$49,747 69
<i>Ruggles street</i> , from Chalkstone avenue to Smith street.....	573 58	
<i>South Angell street</i> , from present end of curb to East River street.....	13 00	
<i>Taber avenue</i> , from near Humboldt to Irving.....	301 62	
<i>Tanner street</i> , from Pearl to Dudley.....	737 50	
<i>Thurber's avenue</i> , from end of curb to Broad street..	46 63	
<i>Updike street</i> , from Daboll to Public and Peace to Moore.....	339 86	
<i>Vandewater street</i> , from Branch avenue to Douglas..	1,459 99	
<i>Villa avenue</i> , from Taber to Arlington.....	766 50	
<i>West Exchange street</i> , from Cove to Ridge.....	3,918 27	
		\$21,298 83

TO BE BROUGHT TO GRADE.

<i>Mantor avenue</i> , near junction of Chalkstone avenue.	\$607 03	
<i>Olney street</i> , from East avenue, easterly and northerly.	2,378 80	
<i>Transit street</i> , from Ives to Gano.....	959 35	
<i>Transit street</i> , from Ives to Gano, house lots.....	934 35	
		\$4,779 53

TAKE POSSESSION OF.

<i>Dexter street</i> , from Cromwell to Potter's avenue.....	\$4,365 47	
<i>Ocean street</i> , from Richardson to south line of Byfield.	523 87	\$4,889 34

PAVE WITH GRANITE BLOCKS.

<i>Back street</i> , from Orms to Smith.....	\$2,283 88	
<i>North Main street</i> , from Olney to Randall.....	8,054 40	
		\$10,338 28

BUILDING RETAINING WALL.

<i>West Exchange street</i> .....	\$1,220 51
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TO BE REPAIRED.

<i>Prospect alley</i> , from Hope street to Brook.....	138 41
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BUILD DRIVEWAY AND CONCRETE SIDEWALK.

<i>Chaffee and Capron streets</i> , adjoining Fire Station..	186 62
--	--------

RESET OLD CURB.

<i>John street</i> , from Benefit to Governor.....	\$396 96	
<i>Thayer street</i> , from Transit to Williams.....	303 65	
		\$700 61
Amount carried forward.....		\$93,209 82

Amount brought forward.....	\$33,299 82
<b>GRADE APPROACH AND LAY DRAIN PIPE.</b>	
<i>Chalkstone avenue, at new Manton bridge.....</i>	\$686 00
<b>CONCRETE GUTTERS.</b>	
<i>Broad street, from Friendship to Public.....</i>	\$805 46
<b>MACADAMIZE AND RESET CURB.</b>	
<i>Power street, from Carrington lane to Governor street.</i>	\$831 38
	<u>\$95,422 56</u>

Bills deposited with the city treasurer for collection, from April 1 to June 30, 1890, inclusive, amounted to . . . . . \$1,706 52

As follows :

Providence Cable Tramway Co., for granite blocks...	\$836 69
Street sweepings.....	329 50
New York, Providence & Boston R. R. Co., for use of road roller and materials.....	300 76
Labor and materials.....	182 57
Manure from barn.....	52 50
Old wheels.....	2 50
Chopping blocks.....	2 00
	<u>\$1,706 52</u>

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$921 18

As follows :

Street sweepings.....	\$329 50
New York, Providence & Boston R. R. Co., for use of road roller and materials.....	300 76
Labor and materials.....	233 92
Manure from barn.....	52 50
Old wheels.....	2 50
Chopping blocks.....	2 00
	<u>\$921 18</u>

The expenditures on account of sidewalks and curbing, from April 1 to June 30, 1890, inclusive, amounted to . . . . . \$20,130 76

Curbing bills deposited with the city treasurer for collection, from April 1 to June 30, 1890, inclusive, amounted to . . . . . \$2,032 46

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$13,698 93

### CITY ENGINEER.

Bills approved on account of city engineer's department from May 5 to June 30, 1890, inclusive, amounted to . . . . . \$9,419 74

#### Charged as follows :

City engineer's salary.....	\$833 33
Salaries of assistants.....	6,853 06
Salaries of clerks.....	491 66
Instruments and repairs.....	458 85
Supplies, drawing materials, etc.....	313 84
Horse-car tickets.....	220 00
Horse-hire, barn expenses, etc.....	109 65
City engineer for horse-hire.....	91 94
Sundries.....	46 33
Meteorological instruments and repairs.....	1 08
	<hr/>
	\$9,419 74

### BRIDGES.

Bills approved on account of bridges from May 5 to June 30, 1890, inclusive, amounted to . . . . . \$2,253 94

## Charged as follows :

Atwell's avenue bridge.....	\$168 19
Barn expenses.....	24 94
Cemetery street bridge.....	5 25
Central or Red bridge.....	104 85
Charles street bridge.....	1 40
Gaspee street bridge.....	8 92
Horses, wagons, harnesses, etc.....	7 78
Lumber, hardware, etc.....	9 36
Manton bridge.....	11 15
Mill street bridge.....	1 50
Park bridges.....	14 08
Park street bridge.....	17 82
Point street bridge.....	112 93
Randall street bridge.....	1 35
Rent of keeper's house, Washington bridge.....	30 00
Salaries—Point street bridge.....	655 75
Salaries—Washington bridge, near India Point.....	331 00
Salaries—Red or Central bridge.....	305 00
Sundries.....	64 73
Tar bridge (Manton avenue).....	1 00
Tools.....	32 25
Washington bridge.....	3 25
Washington bridge, near India Point.....	340 26
	<hr/>
	\$2,253 94

JOHN A. COLEMAN,

*Commissioner.*

1890.]

CITY DOCUMENT.

[No. 27.]

THIRTY-FIRST  
QUARTERLY REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING SEPTEMBER 30, 1890.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
37 Custom House Street,  
1890.





1890.]

CITY DOCUMENT.

[No. 27.]

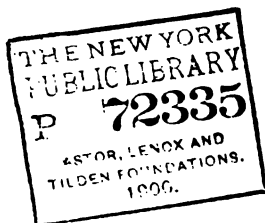
THIRTY-FIRST  
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1890.



# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., October 1, 1890. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter iv. of the ordinances, the Commissioner of Public Works respectfully presents the thirty-first quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending September 30, 1890.

## WATER WORKS.

### PETTACONSET PUMPING STATION.

My observation of the method of making steam at the Pettaconset Pumping Station led me to suppose that an important improvement might be effected. Further investigation and experiments resulted in my adoption of a different system of firing, and with other kinds of coal. At the end of twelve months' trial I find an economy has been made amounting to the sum of \$2,143.

### FRUIT HILL RESERVOIR.

After the passage of the resolution to repair the reservoir considerable time was consumed in the effort to secure a satisfactory contractor, and when the man whom we believed was best suited to the work was found, some further time was necessary to enable him to complete work

upon which he was engaged. Meantime earnest efforts were being made to secure clay of suitable quality, and at a reasonable price. For some time it seemed inevitable that the city would be obliged to pay \$4.50 per cubic yard for satisfactory clay delivered in the reservoir, which would have required an expenditure of \$36,000 for what it had been estimated we could get for \$24,000.

A persistent effort, however, has resulted in our obtaining clay admirably adapted to the purpose, from the bed of Narragansett Bay, at a cost within our estimate.

The peculiarity of this work required the obtaining of new plant, and the training of men in a new class of work, which naturally retarded operations, and caused an expense, which if applied to only a small quantity of clay, would have been prohibitory, but applied to the quantity which we require, will apparently result in an expenditure not much exceeding the estimate, and certainly less than as good clay could be obtained elsewhere.

So far as practicable, machinery and steam engines will be used upon the work at the reservoir. So far as excavations have been made in earnest in the beginning of the reconstruction, the embankments have been found in even poorer condition than was realized from our observations in the experimental pits. From a level slightly below the bottom of the reservoir, down to the bottom of the artificial trench, the earth which should have been compact and impervious to water, is easily shoveled by the men without the use of the pick.

It will be remembered that in the reports of the engineers attention was called to the probable insecurity of the bottom of the reservoir. No estimate was made for treating this, for the reason that we thought any trouble which might arise might be dealt with when the time should come. The doubt expressed by the engineers as to the security of the bottom has been verified, by the exposures obtained where an excavation on the bottom was necessarily made to secure anchorage for a derrick. Water pouring in here from the

bottom during a heavy rain quickly disappears through the earth.

The work has now been well organized, so as to be economically done, and will be pushed as rapidly as practicable.

July 8th, the proposal of John R. White & Son for furnishing coal at Hope pumping station, was accepted and a contract subsequently executed. Amount, \$1,657.50.

August 9th, the offer of Frank F. Carpenter to furnish the lumber for the run at Fruit Hill reservoir was accepted.

August 20th, the offer of F. H. Peabody & Son, Agents, to build the run at Fruit Hill reservoir, was accepted.

September 11th, a contract was executed with Frank B. Durfey, for repairs of Fruit Hill reservoir.

The average daily consumption of water during the last quarter was 7,331,134 gallons.

Water pipes were laid during the quarter, as follows :

20-INCH.	
In Adelaide avenue.....	1,321.79 feet.
12-INCH.	
In Mount Pleasant avenue.....	1,213.47 feet.
8-INCH.	
In Burrington street, Chalkstone and Roger Williams avenues, and in Elmwood avenue, Town of Cranston, and in Plainfield street, Old Killingly road and Dyer avenue, Town of Johnston.....	5,209.10 feet.
6-INCH.	
In Atlantic, Ayrault, Cyr, Elmwood, Felix, Frankfort, Frederick, Fremont, Gano, Glenham, Merchant, Mount Vernon, Pearl, Pratt, Ruggles, Smith, Sorrento, Summit, Tower, Transit, Tyler, Walter and West Exchange streets, Arthur, Chapin, Doyle, Irving, Linwood, Narragansett, Rangeley and Slater avenues, and in Greenwood and Magnolia streets and Arnold avenue, Town of Cranston, and in Johnston and Providence streets and Rocky Hill avenue, Town of Johnston, and in Roger Williams Park,....	10,481.64 feet.
Total.....	18,226.00 feet.

or 3.45 + miles.

Water pipes were removed during the quarter, as follows:

8-INCH.

In Chalkstone avenue, and in Old Killingly road, Town of Johnston.....	226.05 feet.
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6-INCH.

In Adelaide avenue.....	863.22 feet.
Total.....	1,109.27 feet.

or .210+ miles.

Statement of sizes and lengths of pipe laid since the commencement of the work :

36-inch.....	10,084.	feet.
30-inch.....	59,637.	feet.
24-inch.....	43,418.92	feet.
20-inch.....	9,626.59	feet.
16-inch.....	31,746.36	feet.
12-inch.....	69,179.23	feet.
10-inch.....	14,471.76	feet.
8-inch.....	171,607.12	feet.
6-inch.....	772,275.32	feet.
Total.....	1,182,046.30	feet.

or 223.87+ miles.

Eleven fire hydrants were set during the quarter, one in each of the following locations :

Adelaide avenue, north side, at east corner of Hamilton street.

Adelaide avenue, north side, at west corner of Niagara street.

Adelaide avenue, north side, opposite west line of Emerson street.

Atlantic street, north side, about 240 feet west of Niagara street.

Dyer avenue, Johnston, northwest side, at northerly corner of Simmon<sup>s</sup> street.

Dyer avenue, Johnston, northwest side, at northerly corner of Miller street.

Irving avenue, north side, about 170 feet west of Butler avenue.

Linwood avenue, north side, at east corner of Sorrento street.

Shaw avenue, Cranston, north side, about 900 feet east from Broad street.

Smith street, south side, opposite north line of Eaton street.

Roger Williams Park, at southwest corner of deer park.

During the quarter, one fire hydrant was removed from the following location :

Niagara street, south of Adelaide avenue.

The total number of fire hydrants is now thirteen hundred and fifty-five: thirteen hundred and forty-three flush and twelve post hydrants.

The work of laying the following list of water pipes was in process at the close of the quarter :

No. of resolution. Date of approval.

365. July 18, 1888, *Mount Pleasant avenue, extension from Chalkstone avenue to Smith street. 1,213.5 feet of .12-inch pipe laid; the balance cannot be properly laid until the street is graded.*
469. " 25, 1890, *Providence street, Lawn, Union and Laurel Hill avenues, Johnston; work commenced.*
495. Aug. 4. " *Plainfield street, Johnston; about 1,570 feet laid.*

Work had not commenced upon laying water pipes in the following streets, September 30, 1890 :

670. Dec. 2, 1889, *Lloyd and Slater avenues.*
464. July 25, 1890, *Concannon street, from Delahunt street westerly.*
465. " " " *Evergreen street, from end of pipe westerly.*
468. " " " *Newark street, from Academy avenue easterly.*
490. Aug. 4, " *Cemetery and Concord streets.*
492. " " " *Chalkstone and Winthrop avenues.*
500. " " " *Chatham street, from Branch avenue northwesterly.*
555. Sept. 20, 1890, *Amsterdam street, from Handy street easterly.*



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556.	Sept. 20,	1890,	<i>Cato street, Cranston, from Benedict street westerly.</i>
557.	" "	"	<i>Hartford street, Johnston, from end of pipe at Alverson avenue, westerly.</i>
558.	" "	"	<i>Hassan street, from present end of pipe, northerly.</i>
559.	" "	"	<i>Linton street, from end of main to Canton street, and in Canton street, southerly.</i>
560.	" "	"	<i>Lynch street, from Atwell's avenue, northerly.</i>
561.	" "	"	<i>Smith street, from near Nelson street, southeasterly.</i>
562.	" "	"	<i>Station street, from present end of pipe, northwesterly.</i>
564.	" "	"	<i>Inkerman street, from Candace to Pekin.</i>
591.	" "	"	<i>Dover street, from Mount Pleasant avenue, westerly.</i>
592.	" "	"	<i>Sixth street, from Brewster street, easterly.</i>
593.	" "	"	<i>Smith street. from Academy avenue, northwesterly.</i>

During the quarter one hundred and fifty-nine water meters were set, of which number six were to replace other meters. The use of two meters was discontinued.

The following meters were in use at the close of the quarter :

Kind.	Size.							Total.
	$\frac{1}{8}$ -in.	$\frac{1}{4}$ -in.	1-in.	1 $\frac{1}{2}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	3,026	589	145	41	6	.....	.....	3,807
Ball & Fitts, rotary.....	.....	.....	22	25	3	5	3	58
Crown.....	4,331	618	157	68	20	6	4	5,204
Fales, Jenks & Sons.....	2	1	1	.....	.....	.....	.....	4
Worthington.....	21	1	.....	.....	1	.....	1	24
	7,380	1,209	325	134	30	11	8	9,097

Three plumber's licenses were issued during the quarter, making the total number sixty-six, all of which expire December 31, 1890.

Eight hundred and nine permits to do plumbing work were issued during the quarter.

Two hundred and thirty-eight applications for water were made during the quarter, making the total number September 30, 1890, sixteen thousand three hundred and twenty-three.

The number of new service stops opened during the quarter was two hundred and twenty.

The total number of service stops opened to September 30, 1890, inclusive, was fifteen thousand six hundred and forty-four. The number in actual use September 30, 1890, was fourteen thousand seven hundred and sixty-four.

The amount of bills approved on account of water works from July 1 to September 30, 1890, inclusive, was

For construction and extension, . . . \$18,158 52

## Classified as follows :

Fruit Hill reservoir, for repairs.....	\$3,027 17
Fruit Hill reservoir, for construction.....	207 00
Cast-iron water pipe.....	7,728 69
Laying water pipes.....	4,197 96
Special castings.....	1,164 39
Laying service pipes.....	821 84
Labor on and carting pipe.....	455 17
Barn expenses.....	200 82
Wharf salaries.....	150 00
Tools.....	92 86
Fire hydrants, boxes and covers.....	64 00
Horses, wagons, harnesses, etc.....	48 62
	<hr/>
	\$18,158 52

For maintenance, . . . . . \$19,847 49

## Classified as follows :

## PETTACONSET PUMPING STATION.

Coal and wood.....	\$2,664 61
Sundries.....	812 71
Firemen.....	747 68
Engineers.....	625 00
Corliss pumping engine and house.....	494 69
Care of grounds.....	262 32
Superintendence.....	250 00
Lights.....	231 75
Labor on fuel.....	186 15
Oil, waste and packing.....	183 84
Barn expenses.....	56 72
Cornish engine house.....	56 49
Cornish pumping engine.....	42 68
Worthington pumping engine.....	1 50
	<hr/>
	6,616 38

## SOCKANOSSET RESERVOIR.

Sundries.....	\$176 28
Watchman.....	138 00
	<hr/>
	314 28

## HOPE PUMPING STATION.

Coal and wood.....	\$1,681 75
Engineers.....	500 00
Amounts carried forward.....	<hr/>
	\$2,181 75
	\$6,930 62

Amounts brought forward.....	\$2,181 75	\$6,930 62
Firemen.....	483 00	
Care of grounds.....	273 53	
Sundries.....	199 90	
Lights.....	85 75	
Hope pumping engine, No. 1.....	63 75	
Oil, waste and packing.....	37 72	
Hope pumping engine, No. 2.....	10 00	
		<u>3,335 40</u>

HOPE RESERVOIR.

Watchman.....	\$207 00	
Sundries.....	1 60	
		<u>208 60</u>

PIPE LINE AND SERVICE STOPS.

Repairs.....	\$922 86	
Superintendence—salaries.....	650 00	
		<u>1,572 86</u>

METER DEPARTMENT.

Water meters.....	\$2,446 21	
Setting and repairing meters.....	1,125 12	
		<u>3,571 33</u>

MISCELLANEOUS.

Clerks' and inspectors' salaries.....	\$3,179 29	
Prevention of defilement of the Pawtuxet.....	424 45	
Telephone lines.....	312 71	
Barn expenses.....	118 74	
Analyses of water.....	111 75	
Sundries.....	42 42	
Public drinking fountains and troughs.....	27 51	
Pipe yard, office expenses.....	9 50	
Horses, wagons, harnesses, etc.....	2 31	
		<u>4,228 68</u>
		<u>\$19,847 49</u>

The amount of expenditures from July 1  
to September 30, 1890, inclusive, was . \$38,006 01

The total expenditures to September 30,  
1890, inclusive, were . . . \$7,079,448 28

The <i>net</i> expenditure for construction and extension from July 1 to September 30, 1890, inclusive, was.....	\$17,617 65
The <i>net</i> expenditure for construction and extension to September 30, 1890, inclusive, was.....	5,523,710 13
The <i>net</i> expenditure for maintenance from July 1 to September 30, 1890, inclusive, was.....	14,653 53
The <i>net</i> expenditure for maintenance to September 30, 1890, inclusive, was.....	961,827 06

Bills deposited with the city treasurer for collection from July 1 to September 30, 1890, inclusive, amounted to . . . . \$47,118 44

As follows :

Water.....	\$41,621 64
Water meters.....	3,708 10
Setting and repairing water meters.....	917 22
Rent of real estate.....	308 03
Grass from Hope Reservoir.....	50 00
Penalties.....	16 00
Permanently closing service stops.....	10 00
Labor and materials, laying service pipes, etc.....	477 46
Manure from barn.....	10 00
	<u>\$47,118 44</u>

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$45,186 30

As follows :

Water.....	\$39,435 47
Water meters.....	3,742 10
Setting and repairing water meters.....	1,066 34
Rent of real estate.....	320 52
Grass from Hope reservoir.....	50 00
Penalties.....	16 00
Permanently closing service stops.....	15 00
Labor and materials, laying service pipes, etc.....	530 87
Manure from barn.....	10 00
	<u>\$45,186 30</u>

The amount of bills approved on account of water works for the fiscal year, ending September 30, 1890, was

For construction and extension, . . . \$86,967 68

Charged as follows :

Fruit Hill reservoir, for construction.....	\$15,051 21	
Fruit Hill reservoir, for repairs.....	3,818 39	
Fruit Hill reservoir, for telephone line.....	43 00	
Fruit Hill reservoir, for sundries.....	3 00	
Cast iron water pipes.....	32,043 27	
Laying water pipes.....	13,868 43	
Special castings .....	4,347 08	
Fire hydrants, boxes and covers .....	3,604 46	
Laying service pipes.....	3,222 45	
Service pipe.....	2,776 41	
Stop valves.....	2,181 16	
Labor on and carting pipes. ....	1,358 40	
Taps and stops.....	1,316 20	
Rent of wharf and pipe yard.....	1,250 00	
Horses, wagons, harnesses, etc.....	679 48	
Wharf salary .....	611 55	
Barn expenses.....	583 06	
Tools .....	210 13	
		<u>\$86,967 68</u>

For maintenance, . . . \$80,175 25

Charged as follows :

PETTACONSET PUMPING STATION.

Coal and wood .....	\$8,288 84	
Engineers.....	2,500 00	
Sundries.....	2,479 43	
Firemen.....	2,127 18	
Cornish engine house.....	1,688 43	
Care of grounds.....	1,097 63	
Superintendence.....	1,000 00	
Corliss pumping engine and house.....	894 62	
Lights .....	803 87	
Oil, waste and packing.....	517 28	
Labor on fuel. ....	512 55	
Barn expenses .....	236 99	
Cornish pumping engine.....	200 97	
Real estate .....	117 52	
Worthington pumping engine.....	1 50	
Amount carslied forward.....		<u>\$22,476 81</u>

Amount brought forward..... \$22,476 81

**SOCKANOSSET RESERVOIR.**

Watchman .....	\$547 50	
Sundries.....	241 85	789 35

**HOPE PUMPING STATION.**

Engineers .....	\$2,800 00	
Coal and wood.....	2,438 13	
Firemen.....	1,815 00	
Care of grounds.....	973 61	
Sundries.....	558 89	
Lights .....	402 75	
Oil, waste and packing.....	165 05	
Hope pumping engine, No. 2.....	96 74	
Hope pumping engine, No. 1.....	90 52	9,343 68

**HOPE RESERVOIR.**

Watchman .....	\$321 25	
Sundries.....	14 45	835 70

**PIPE LINE AND SERVICE STOPS.**

Repairs.....	\$3,411 10	
Superintendence—salaries.....	2,575 00	5,986 10

**METER DEPARTMENT.**

Water meters.....	\$12,671 18	
Setting and repairing meters.....	3,971 59	16,642 77

**MISCELLANEOUS.**

Clerks' and inspectors' salaries.....	\$12,468 41	
Town of Cranston, tax.....	7,690 00	
Prevention of defilement of the Pawtuxet.....	1,256 28	
Telephone lines.....	959 68	
Barn expenses.....	804 05	
Analyses of water.....	403 20	
Horses, wagons, harnesses, etc.....	160 85	
Sundries .....	158 06	
Pipe yard, office expenses.....	62 75	
Public drinking fountains and troughs.....	59 36	
Real estate at Pawtuxet.....	52 50	
Town of Lincoln, tax.....	16 86	
Fruit hill reservoir for sundries.....	8 84	24,100 84
		<u>\$80,175 25</u>

ve

764 00

488 10

262 00

\$1,350 10

the following



Francis street and Woods avenue.....	\$1,624 28
McKenna and Cross streets.....	1,483 15
Bishop and Plain streets.....	2,023 43
Barclay street.....	283 45
East street.....	144 00
Mallett street.....	607 03
Gay street.....	1,145 63
Robinson street.....	2,180 90
<b>Total.....</b>	<b>\$10,483 23</b>

September 18th, an offer of Moulton & O'Mahoney to cart brick was accepted.

September 19th, consent was given to Everson & Liddle to transfer their contract for constructing section 1, improved sewerage system, to Moulton & O'Mahoney. The contract was subsequently transferred.

July 10th, contracts for the construction of sewers, which were subsequently signed, were awarded as follows — namely :

[The amounts given below are what are estimated will be paid the contractors for labor, and do not include cost of inspection and materials, or rock excavation.]

#### TO FREDERICK E. SHAW.

No. of resolution. Date of approval.

233.	May 1, 1890,	Arthur avenue, from Kenyon to Asia street,	\$597 70
259.	" 7, "	Smith street, from end of sewer, westerly,	565 80
337.	" 27, "	Parade street, from Willow to High, .	1,172 85
351.	June 2, "	Charles street, from West River to Ash- burton, . . . .	663 95
352.	" " "	Mulberry street, from Cherry to Common,	511 80

resolution. Date of approval.

June 2, 1890,	<i>Whipple and Oregon</i>	
	<i>streets, . . .</i>	\$ 1,338 10
" " "	<i>Penn street, from Almy</i>	
	<i>to Ridge, . . .</i>	630 90
" 21, "	<i>Arlington avenue, from</i>	
	<i>Irving to Angell street,</i>	2,926 30
" " "	<i>Joslin street and Man-</i>	
	<i>ton avenue, . . .</i>	1,952 30
" " "	<i>Harvard avenue, from</i>	
	<i>Taylor street, westerly,</i>	590 90

ly 25th, contracts for constructing sewers, which have been signed, were awarded as follows, namely :

TO FREDERICK E. SHAW.

resolution. Date of approval.

July 8, 1890,	<i>Atwell's Avenue, from</i>	
	<i>America to Knight</i>	
	<i>street, . . .</i>	\$1,764 00
" 8, "	<i>Harkness street, from</i>	
	<i>High to Broadway, .</i>	1,488 10
" " "	<i>Oak Street, from sum-</i>	
	<i>mit to Parade, .</i>	262 00

TO JOHN KEOGH.

resolution. Date of approval.

July 8, 1890,	<i>Oak, Sycamore and</i>	
	<i>High streets, . . .</i>	\$1,350 10

uring the quarter the construction of the following  
rs was completed, namely :

No. of resolution.	Date of approval.		Date of completion.
613.	Nov. 16, 1889,	Doyle avenue, from Camp street to East avenue,	Aug. 7, 1890.
233.	May 1, 1890,	Arthur avenue, from Kenyon to Asia street,	July 19, 1890.
259.	" 7, 1890,	Smith street, from end of sewer, westerly,	Aug. 1, 1890.
351.	June 2, "	Charles street, from West River to Ashburton,	Sept. 1, 1890.
352.	" " "	Mulberry street, from Cherry to Common,	Sept. 11, 1890.
353.	" " "	Whipple and Ore- gon streets,	Sept. 4, 1890.
354.	" " "	Penn street, from Almy to Ridge,	July 30, 1890.
394.	" 21, "	Joslin street and Manton avenue,	Aug. 29, 1890.
433.	July 8, "	Oak, Sycamore, and High streets,	Sept. 8, 1890.

At the close of the last quarter work was in progress upon the following streets, namely :

393. June 21, 1890, *Arlington avenue, from Irving to Angell street.*  
 429. July 8, " *Atwell's avenue, from America to Knight street.*

Work upon the following sewers, completing the list ordered by the city council, had not commenced September 30, 1890, viz. :

No. of resolution. Date of approval.

337.	May 27, 1890.	<i>Parade street, from Willow to High.</i>
395.	June 21, “	<i>Harvard avenue, from Taylor street, westerly.</i>
430.	July 8, “	<i>Harkness street, from High to Broadway.</i>
431.	“ “ “	<i>Irving avenue, from Taber to Arlington.</i>
432.	“ “ “	<i>Oak street, from summit to Parade.</i>
532.	Sept. 8, “	<i>Almy street, from Broadway to High.</i>
549.	“ 20, “	<i>Acorn street, from Atwell's avenue to West Exchange street.</i>
550.	“ “ “	<i>Broad street, from Stewart to Summer.</i>
551.	“ “ “	<i>Dale street, from Atwell's avenue to West Exchange street.</i>
552.	“ “ “	<i>Joslin street, from Atwell's avenue to Amherst street.</i>
553.	“ “ “	<i>Williams street, from summit to Benefit street.</i>
554.	“ “ “	<i>Willow street, from Parade to Sycamore.</i>

Bills approved on account of sewers from July 1 to September 30, 1890, inclusive, amounted to

For construction, . . . . . \$51,280 50

Charged as follows :

Materials.....	\$11,836 23
Rent of wharf and pipe yard.....	625 00
Sundries, improved sewerage system.....	440 05
Clerk's salary.....	234 00
Testing cement.....	210 19
Tools.....	21 00
Sewer in Arlington avenue, from Irving to Angell street.....	840 91
Amount carried forward.....	\$14,207 38

Amount brought forward.....	\$14,207 38
Sewer in Arthur avenue, from Asia street to Kenyon.	608 27
Sewer in Atwell's avenue, from America street to Knight.....	1,599 76
Sewer in Charles street, from West River to Ashburton.....	684 82
Sewer in Doyle avenue, from near East avenue to Camp street.....	3,671 16
Sewer in Joslin street and Manton avenue.....	2,372 85
Sewer in Mulberry street, from Cherry to Common..	510 60
Sewer in Oak, Sycamore and High streets.....	1,829 11
Sewer in Penn street, from Almy to Ridge.....	644 57
Sewer in Smith street, from end of sewer westerly...	601 84
Sewer in West Exchange and Ridge streets.....	3,430 79
Sewer in Whipple and Oregon streets.....	2,172 32
Excavation in Disposal and Elmwood Divisions. ....	6,421 81
Sewer in Disposal Division, Section 1.....	6,239 02
Sewer in Elmwood Division, Section 5.....	2,628 88
Sewer in Elmwood Division, Section 8.....	3,422 32
Contract reservations.....	235 00
	<hr/>
	\$51,280 50

For maintenance, . . . . . \$5,814 84

Charged as follows :

Cleaning basins and sewers.....	\$3,153 50
Repairing basins and sewers.....	776 21
Cleaning and repairing old drains.....	482 30
Salary—superintendent.....	350 00
Barn expenses.....	338 80
Inspection of connections.....	250 00
Horses, wagons, harnesses, etc.....	224 23
Tools.....	103 21
Sundries.....	42 30
Cleaning private connections.....	31 94
Telephone lines.....	31 25
Filling cisterns, etc.....	31 10
	<hr/>
	\$5,814 84

The <i>net</i> expenditure for construction of sewers to September 30, 1890, inclusive, was.....	\$2,098,766 61
The <i>net</i> expenditure for maintenance of sewers to September 30, 1890, inclusive, was.....	311,766 11

Bills deposited with the city treasurer for collection, from July 1 to September 30, 1890, inclusive, amounted to . . . . . \$91 00

As follows :

Cleaning private connections.....	\$50 93
Filling cisterns, etc.....	36 07
Sewer pipe.....	4 00
	<u>\$91 00</u>

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$89 78

As follows :

Cleaning private connections.....	\$50 93
Filling cisterns, etc .....	38 85
	<u>\$89 78</u>

The amount of bills approved on account of sewers for the fiscal year ended September 30, 1890, inclusive, was

For construction, . . . . . \$138,373 74

Charged as follows :

Materials.....	\$26,350 25
Rent of wharf and pipe yard.....	1,250 00
Clerk's salary.....	895 50
Testing cement.....	626 99
Sundries, improved sewerage system.....	496 04
Sundries.....	75 89
Tools.....	26 09
Sewer in Almy and Gesler streets.....	1,934 84
Sewer in Arlington avenue, from Irving to Angell street.....	840 91
Sewer in Arthur avenue, from Asla street to Kenyon.....	608 27
Sewer in Atwell's avenue, from America street to Knight.....	1,599 76
Sewer in Bishop and Plain streets.....	1,513 24
Amount carried forward.....	<u>\$76,217 78</u>

Amount brought forward  
 Sewer in Broadway and Tolson  
 Sewer in Charles street, from  
 Burton.....  
 Sewer in Common street, from  
 Sewer in Congdon street,  
 Key to Olney.....  
 Sewers in Cove Promenade  
 Sewer in Doyle avenue, from  
 Sewer in Doyle avenue, from  
 Camp street.....  
 Sewer in Gay street, from  
 Sewer in Grove street, from  
 Sewer in Grove and  
 avenue.....  
 Sewer in High street, from  
 Sewer in Joslin street, from  
 Sewer in Mulberry street, from  
 Sewer in Oak, Sycamore  
 Sewer in Penn street, from  
 Sewer in Randall street, from  
 square.....  
 Sewer in Ring street, from  
 Sewer in Ring street, from  
 Sewer in Robinson street,  
 avenue.....  
 Sewer in Smith street, from  
 Sewer in Smith street, from  
 Sewer in Tobey street, from  
 Sewer in Villa avenue, from  
 Sewer in Western street, from  
 Sewer in West Exchange street, from  
 Sewer in Whipple and  
 Excavation in Disposal Division  
 Sewer in Disposal Division  
 Sewer in Elmwood Division  
 Sewer in Elmwood Division  
 Contract reservations.....  
 Field's Point, office-building

For maintenance,

Charged as follows :

Cleaning basins and sewers  
 Repairing basins and sewers

Amount carried forward

Amount brought forward .....	\$11,163 35
Cleaning and repairing old drains.....	1,805 46
Barn expenses.....	1,410 81
Salary—superintendent.....	1,400 00
Horses, wagons, harnesses, etc.....	1,102 73
Inspection of connections....	1,000 00
Tools.....	935 26
Cleaning private connections.....	222 75
Sundries.....	112 23
Telephone lines.....	92 11
Filling cisterns, etc.....	75 09
	<hr/>
	\$19,319 79

## HIGHWAYS.

Four permits to open streets were issued during the quarter.

July 7th, an offer of Moulton & O'Mahoney to extend the bank wall on West Exchange street was accepted.

Uncollected curbing bills, returned by the city treasurer, were certified to the assessors of taxes, August 6, 1890, amounting to \$12,489.98.

During the quarter the following streets have been repaired :

Appleton street, from Delaine to Putnam street.  
 Audrey street, from Delaine to Bowdoin street.  
 Bassett street, from Elm to Hospital street.  
 Broadway, from Aborn to Barton street.  
 Brownell street, from Park to Holden street.  
 Chestnut street, from Elm to Point street.  
 Eddy street, from Public street to Railroad Bridge.  
 Foster street, from Friendship to Broad street.  
 Hoppin street, from Bassett to Point street.  
 Julian street, from Manton avenue to Appleton street.  
 South Main street, from Tockwotton to India street.  
 Stauben street, from Manton avenue to Amherst street.  
 West Park street, from Park to Holden street.

During the quarter the following work was completed :



## DEWALKS CURBED AND GUTTERS PAVED.

Date of

- Dec. 15, 1887, *Transit street, from Ives to Gano.*
- Mar. 15, 1888, *Howe street, from Fenner avenue 450 feet easterly.*
- April 19, 1888, *Lilac street, from Brattle to Salem.*
- “ “ “ *Pomona avenue, from Academy avenue to Pemberton street.*
- Dec. 20, “ *Roanoke street, from end of curb to Mt. Pleasant avenue.*
- “ “ “ *Dahlia street, from Cranston to Brattle.*
- “ “ “ *Atlantic street, from Broad to Niagara.*
- “ “ “ *Adelaide avenue, from Niagara street to Melrose street.*
- April 18, 1889, *Dahlia street from Brattle to Salem.*
- May 16, “ *Tanner street, from Pearl to Dudley.*
- June 20, “ *Ruggles street, from Chalkstone avenue to Smith.*
- “ “ “ *Admiral street, from Douglas avenue to Mowry street.*
- “ “ “ *Congress street, from Broad to Melrose.*
- Oct. 17, “ *Gay street, from Willard avenue to Dudley street.*
- “ “ “ *Robinson street, from Prairie avenue to Gay street.*
- Nov. 21, “ *Frank street, from Beacon to Prairie avenue.*
- “ “ “ *Thurber's avenue, from west end of curb to Broad street.*
- Dec. 19, “ *South Angell street, from end of curb to East River street.*
- “ “ “ *Bogman street, from Plain to Hilton.*
- “ “ “ *Villa avenue, from Taber to Arlington.*
- Feb. 20, 1890, *Thayer street, east side, from Power to Williams.*

## Date of order.

- March 20, 1890, *Dover street, from Mount Pleasant avenue to Carleton street.*  
 June 19, " *Atlantic street, from Niagara to Hamilton.*  
 " " " *Charles street, adjoining Fire Station.*

## TO TAKE POSSESSION OF.

- April 13, 1889. *Ocean street, from Thurber's avenue to Richardson street.*  
 Oct. 31, " *Ocean street, from Richardson to Byfield.*

## TO BE BROUGHT TO GRADE.

- Feb. 13, 1887, *Transit street, from Ives to Gano.*  
 May 15, 1890, *Lots on Transit street.*  
 June 5, " *Bowdoin street, from Kossuth to Appleton.*  
 July 2, " *Irving avenue, from Slater to Buller.*

## TO BE MACADAMIZED.

- June 2, 1890, *Power street, from Carrington lane to Governor street.*

## TO BE PAVED WITH GRANITE BLOCKS.

## No. of resolution. Date of approval.

573. Nov. 7, 1889, *North Main street, from Olney to Randall.*  
 668. Dec. 2, " *Friendship street, from Chestnut to Beacon avenue.*

## HOUSE TO BE RAISED AND LOT GRADED.

## Date of order.

- April 19, 1890, *House of heirs of Fergus McGolrick.*

## FENCE TO BE BUILT.

- May 15, 1890, *On West Exchange street, bank-wall.*

CITY DOCUMENT.

TO BE REPAIRED.

roadway around City Hall.  
Brighton street, from Knight to C

TO BE REMOVED.

Curbing on Cranston street, at en  
Linwood avenue and Althea street.

TO BE PUT IN AND SIDEWALKS TO  
BE RESET.

May 7, 1890, Adjoining Fire Station corner Bro  
nue and Charles street.

CURBING TO BE RESET.

June 2, 1890, Williams street, from South Main  
ernor.

TO BE BUILT.

No. of resolution. Date of approval.

577. Nov. 7, 1889, *Jenkins street, from North  
Camp.*

TO BE REMOVED.

Date of order.

July 2, 1890, *Trees in front of Friendship  
estate.*

GUTTERS TO BE CONCRETED.

No. of resolution. Date of approval.

600. Nov. 7, 1889, *Angell street.*

The following work was in progress Septer  
viz. :

SIDEWALKS TO BE CURBED AND GUTTE

Date of order.

Oct. 20, 1887, *West Exchange street, from  
avenue:—nearly complete*

Date of order.

- Mch. 20, 1890, *Washburn street, from Common to Orms:*  
 portion of curbing set.  
 “ “ “ *Gladstone street, from Broad to Baxter:—*  
 curbing set and gutters partly paved.  
 May 15, “ *Arthur avenue, from Kenyon to Asia street:*  
 —curbing partly set.

TO TAKE POSSESSION OF.

- Oct. 31, 1889, *King street, from Manton avenue to Sheridan street:—work commenced.*  
 Dec. 26, “ *Dexter street, from Cromwell to Potter's avenue:—work being done.*

TO BE REBUILT.

No. of resolution. Date of approval.

547. Sept. 20, 1890, *Douglas avenue, from Orms to Vale street:—work commenced.*

TO BE BROUGHT TO GRADE.

285. June 14, 1889, *Lot on Jackson avenue belonging to Rachel Paine:—portion of work done.*  
 Feb. 27, 1890, *Dexter street, from Cromwell to Potter's avenue:—work in progress.*  
 July 2, “ *Slater avenue, from Irving to President:—grading not completed between Doyle and President avenues.*  
 June 5, “ *Manton avenue, from end of car track at Dyerville to Chalkstone avenue:—nearly completed.*

TO BE BUILT.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street:—work nearly completed.*

No. of resolution. Date of approval.

274. June 13, 1889, *Smith street, from Ruggles to the city line*:—nearly completed.

#### CURBSTONES TO BE RESET.

Mar. 8, 1890, *John street, from Benefit to Governor*:—completed from Benefit to Thayer.

The following work, ordered by the board of aldermen and city council, had not commenced September 30, 1890, namely:

#### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

Oct. 18, 1888, *Jackson avenue, from Potter's avenue to Beckwith street.*  
 Dec. 20, " *Franklin avenue, from Chalkstone avenue to Vale street.*  
 June 20, 1889, *Buller avenue, from Blackstone park to President avenue.*  
 Oct. 17, " *Pettis street, from North Main to Moshassuck river.*  
 Dec. 19. " *Joslin street, from Atwell's to Manton avenue.*  
 March 20, " *Hannah street, from Amherst to Amsterdam.*  
 " " " *Penn street, from Almy to Ridge.*  
 " " " *Plain street, from Potter's avenue to Pavilion avenue.*  
 April 17, " *Hill street, from Howard to Perry.*  
 " " " *Beaufort street, from Academy to Mount Pleasant.*  
 " " " *Hidden street, from Prospect to Brown.*  
 " " " *Hyatt street, from Amherst to Kossuth.*

## Date of order.

April 17, 1890,	<i>La Vaughn street, from Atwell's avenue to Amherst street.</i>
“ “ “	<i>Peniberton street, from Kendrick to Dover.</i>
“ “ “	<i>Young avenue, from Smith street to Chalkstone avenue.</i>
May 15, “	<i>Chalkstone avenue, from Smith to Ruggles street.</i>
“ “ “	<i>Glenham street, from Broad to Prairie avenue.</i>
“ “ “	<i>Swan street, from Ocean to Plain.</i>
“ “ “	<i>Taylor street, from Public to Glenham.</i>
June 19, “	<i>Dudley street, from Prairie avenue to Plain.</i>
“ “ “	<i>McKenna street, from Cross to Whelden.</i>
Sept. 4, “	<i>Adelaide avenue, between Melrose street and Elmwood avenue.</i>
“ 18, “	<i>Broad street, east side, from near Chester avenue to Public street.</i>
“ “ “	<i>Gallup street, from Prairie avenue to Ocean street.</i>
“ “ “	<i>Gaspee street, from Smith street, southerly to second angle in said street.</i>
“ “ “	<i>Redwing street, from Greenwich to Bucklin.</i>

GUTTERS TO BE PLOUGHED OUT AND ROADWAY  
GRAVELED.

## Date of order.

Nov. 22, 1888,	<i>Dudley street, from Prairie avenue to Plain street.</i>
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## TO BE PAVED WITH GRANITE BLOCKS.

## No. of resolution. Date of approval.

51.	Feb. 7, 1889,	<i>Worcester street, from Eddy to Cove.</i>
269.	May 21, 1889,	<i>Greenwich street, from near Sprague to Public.</i>

## No. of resolution. Date of approval.

567. Sept. 20, 1890, *Dorrance street, between Fulton and Washington, east of railroad track.*  
584. " " " *Atwell's avenue, from Academy to Harris.*

## TO BE REPAIRED AT EXPENSE OF CITY.

## Date of order.

- April 3, 1890, *Promenade street, from Holden to Senter.*

## ROADWAY TO BE MACADAMIZED.

## No. of resolution. Date of approval.

- May 7, 1890, *Public street, Eddy to Prairie avenue.*  
568. Sept. 20, " *Roanoke street, from Pemberton to Academy avenue.*

## TO BE BROUGHT TO GRADE.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
Apr. 13, 1889, *Eddy street, from railroad bridge to Broad street.*  
Apr. 17, 1890, *Oregon street, from Fillmore to Borva.*  
July 2, " *Gaspee street, from Smith street southerly to angle in said street.*  
Sept. 18, " *River avenue, from Douglas avenue to Admiral street.*

## TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.

## Date of order.

- July 21, 1890, *Academy avenue, from Chalkstone avenue northerly.*  
Sept. 4, " *Knight street, from Broadway to Atwell's avenue.*

## TO BE BUILT.

- July 28, 1890, *Melrose street, from Potter's avenue to Adelaide avenue.*

TO BE REBUILT.

No. of resolution. Date of approval.

530. Sept. 8, 1890, *Sherburne street, from Ocean to Eddy.*  
 569. " 20, " *Dexter street, from High to Cranston.*  
 570. " " " *Messer street, from High to Cranston.*  
 571. " " " *Sycamore street, from High to Chapin avenue.*

TO BE REMOVED.

548. Sept. 20, 1890, *Curbing on Cranston street at entrance to Waldo street.*

TO BE REPAIRED.

585. Sept. 20, 1890, *Eddy street, from Westminster to Broad.*

GUTTERS TO BE CONCRETED.

558. Oct. 13, 1889, *Waterman street.*

Bills approved on account of highways from July 1 to September 30, 1890, inclusive, amounted to :

Regular appropriation .....	\$34,965 01	
Special appropriations. ....	63,805 28	
Appropriation for West Exchange street retaining wall. ....	4,704 41	
Contingencies.....	867 58	
		<b>\$104,342 28</b>

Classified as follows :

Cleaning streets.....	\$10,733 78
Repairs on unpaved streets.....	8,697 24
Stone—paving and crosswalk.....	4,088 38
Crushed stone—material and labor.....	2,783 98
Barn expenses.....	1,351 47
Repairs on paved streets.....	1,229 33
Salaries—superintendent and clerks.....	949 50
Tools, implements, etc.....	690 77
Steam rollers—repairs and supplies.....	384 82
Amount carried forward.....	<b>\$30,909 27</b>



No. of resolution. Date of approval.

567. Sept. 20, 1890, *Dorrance street, be*  
*Washington, east*  
 584. " " " *Atwell's avenue*  
*Harris.*

## TO BE REPAIRED AT EX

— \$5

Date of order.

ETC.

April 3, 1890, *Promenade str*

		...	\$2,037 28
		.....	1,648 90
	ROADWAY TO	.....	1,913 96
		.....	4,390 02
No. of resolution.	Date of approval.	.....	184 98
May 7, 1890, <i>Pu</i>		.....	692 83
568. Sept. 20, " <i>R</i>		.....	4,226 14
		.....	868 98
		.....	636 60
	Mount Pleasant	.....	1,678 57
	To B	.....	364 92
511. Oct. 28, 188	ue to Prairie.....		1,280 38
	ue to Dudley street....		726 76
Apr. 13, 18	ad to Baxter.....		42 67
	erest to Amsterdam.....		23 50
	pect to Brown.....		19 57
Apr. 17,	ard to Perry.....		1,061 59
July 2,	aner avenue 430 feet easterly....		75 98
	from Potter's to Beckwith street....		198 57
	Brattle to Salem.....		34 30
	Almy to Ridge.....		1,605 00
Sept.	from end of curb to Mount Pleasant		1,104 71
	from Prairie avenue to Gay street....		1,213 14
	from Chalkstone avenue to Smith		452 35
To T	street, from present end of curb to		1,639 25
Date	street.....		216 03
July	street, from Pearl to Dudley.....		4,062 67
	street, east side, from Power to Williams....		3,871 30
	avenue, from west end of curb to Broad		299 47
Sep	street, from Ives to Gano.....		82 43
	ue, from Taber to Arlington.....		5,132 22
	in street, from Common to Orms.....		
	change street, from Cove to Ridge.....		

Amount carried forward.....

# DEPARTMENT OF PUBLIC WORKS. 33

.....	\$74,068 89
\$525 55	
284 00	
344 75	
Jyer-	
2,025 79	
285 59	
765 65	
	4,231 33

## SESSION OF.

otter's avenue.....	\$4,719 40
south line of Byfield	3 24
	4,722 64

## WITH GRANITE BLOCKS.

ulton to Washington, east of	\$24 75
om Chestnut to Beacon avenue..	5,655 96
from Olney to Randall.....	1,178 81
	6,859 52

## RESET OLD CURB AND MACADAMIZE.

t, from Benefit to Governor.....	\$104 59
est, from Carrington lane to Governor street	3,292 63
reet, from Transit to Williams.....	6 72
street, from South Main to Governor.....	1,257 45
	4,661 39

## TO BE REPAIRED.

street, from Knight to Courtland.....	\$871 69
around City Hall.....	1,878 75
	2,750 44

## TO BE BUILT.

treet, from North Main to Camp.....	\$943 40
est, from Ruggles to city line.....	3,169 72
	4,113 12

## RAISE BUILDINGS.

hange street, south side.....	483 22
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## BUILD DRIVEWAY AND CONCRETE SIDEWALKS.

venue and Charles street, adjoining fire sta-	
.....	247 58
unt carried forward.....	\$102,138 13

Amount brought forward.....	\$30,909 27
Blacksmith and wheelwright shop.....	317 13
Repairs on stone crushers.....	276 27
Horses, wagons, harnesses, etc.....	268 11
Sundries.....	239 23
Telephone lines.....	40 02
Fencing streets.....	13 27
Office expenses, city yard.....	50

\$32,063 89

**NEW WORK.—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Atlantic street</i> , from Broad to Niagara.....	\$2,037 28
<i>Atlantic street</i> , from Niagara to Hamilton.....	1,648 90
<i>Adelaide avenue</i> , from Niagara street to Melrose....	1,913 96
<i>Admiral street</i> , from Douglas avenue to Mowry street.	4,590 02
<i>Arthur avenue</i> , from Kenyon street to Asa.....	184 98
<i>Bogman street</i> , from Hilton to Plain.....	692 83
<i>Congress street</i> , from Broad to Melrose.....	4,226 14
<i>Dahlia street</i> , from Crauston to Brattle.....	868 98
<i>Dahlia street</i> , from Brattle to Salem.....	636 60
<i>Dover street</i> , from Carleton to Mount Pleasant avenue.....	1,678 57
<i>Frank street</i> , from Beacon avenue to Prairie.....	364 92
<i>Gay street</i> , from Willard avenue to Dudley street....	1,280 38
<i>Gladstone street</i> , from Broad to Baxter.....	726 76
<i>Hannah street</i> , from Amherst to Amsterdam.....	42 67
<i>Hidden street</i> , from Prospect to Brown.....	23 50
<i>Hill street</i> , from Howard to Perry.....	19 57
<i>Howe street</i> , from Fenner avenue 450 feet easterly....	1,081 59
<i>Jackson avenue</i> , from Potter's to Beckwith street....	75 98
<i>Lilac street</i> , from Brattle to Salem.....	198 57
<i>Penn street</i> , from Almy to Ridge.....	34 30
<i>Roanoke street</i> , from end of curb to Mount Pleasant avenue.....	1,606 00
<i>Robinson street</i> , from Prairie avenue to Gay street....	1,104 71
<i>Ruggles street</i> , from Chalkstone avenue to Smith street.....	1,213 14
<i>South Angell street</i> , from present end of curb to East River street.....	452 35
<i>Tanner street</i> , from Pearl to Dudley.....	1,639 25
<i>Thayer street</i> , east side, from Power to Williams....	216 03
<i>Thurber's avenue</i> , from west end of curb to Broad street.....	4,062 67
<i>Transit street</i> , from Ives to Gano.....	3,871 30
<i>Villa avenue</i> , from Taber to Arlington.....	299 47
<i>Washburn street</i> , from Common to Orms.....	82 45
<i>West Exchange street</i> , from Cove to Ridge.....	5,132 22

\$42,005 09

Amount carried forward.....

\$74,068 89

# REPORT OF THE DEPARTMENT OF PUBLIC WORKS. 33

Amount brought forward..... \$74,068 89

## TO BE BROUGHT TO GRADE.

<i>Bowdoin street</i> , from Kossuth to Appleton.....	\$525 55	
<i>Irving avenue</i> , from Slater to Butler.....	284 00	
<i>Jackson avenue</i> , lot belonging to Rachel Payne.....	344 75	
<i>Manton avenue</i> , from end of horse car track at Dyer- ville to Chalkstone avenue.....	2,025 79	
<i>Slater avenue</i> , from Irving to President.....	285 59	
<i>Transit street</i> , from Ives to Gano (lots).....	765 65	
		4,231 33

## TAKE POSSESSION OF.

<i>Dexter street</i> , from Cromwell to Potter's avenue.....	\$4,719 40	
<i>Ocean street</i> , from Richardson to south line of Byfield	3 24	
		4,722 64

## PAVE WITH GRANITE BLOCKS.

<i>Dorrance street</i> , from Fulton to Washington, east of railroad tracks.....	\$24 75	
<i>Friendship street</i> , from Chestnut to Beacon avenue..	5,655 96	
<i>North Main street</i> , from Olney to Randall.....	1,178 81	
		6,859 52

## RESET OLD CURB AND MACADAMIZE.

<i>John street</i> , from Benefit to Governor.....	\$104 59	
<i>Power street</i> , from Carrington lane to Governor street	3,292 63	
<i>Thayer street</i> , from Transit to Williams.....	6 72	
<i>Williams street</i> , from South Main to Governor.....	1,257 45	
		4,661 39

## TO BE REPAIRED.

<i>Brighton street</i> , from Knight to Courtland.....	\$871 69	
<i>Roadway around City Hall</i> .....	1,878 75	
		2,750 44

## TO BE BUILT.

<i>Jenkins street</i> , from North Main to Camp.....	\$943 40	
<i>Smith street</i> , from Ruggles to city line.....	3,169 72	
		4,113 12

## RAISE BUILDINGS.

<i>West Exchange street</i> , south side.....	483 22
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## BUILD DRIVEWAY AND CONCRETE SIDEWALKS.

<i>Branch avenue and Charles street</i> , adjoining fire sta- tion.....	247 58
Amount carried forward.....	\$102,138 13

Amount brought forward.....	\$102,138 13
<b>CONCRETE GUTTERS.</b>	
<i>Angell street</i> .....	1,224 73
<b>BUILD FENCES.</b>	
<i>West Exchange street, north side</i> .....	867 88
<b>CURBING REMOVED, ETC.</b>	
<i>Linwood avenue and Althea street</i> .....	111 84
	<u>\$104,342 38</u>

Bills deposited with the city treasurer for collection, from July 1 to Sept. 30, 1890, inclusive, amounted to . . . . . \$7,393 35

As follows :

Union Railroad Co., granite blocks, etc.....	\$6,660 86
Labor and materials.....	505 25
Street sweepings.....	159 34
Manure from barn.....	52 50
Use of road roller.....	10 40
Chopping blocks.....	4 00
Old toggles.....	1 00
	<u>\$7,393 35</u>

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$3,836 30

As follows :

Union Railroad Co., granite blocks, etc.....	\$2,556 29
Providence Cable Tramway Company, granite blocks.	836 69
Labor and materials.....	277 92
Street sweepings.....	97 50
Manure from barn.....	52 50
Use of road roller.....	10 40
Chopping blocks.....	4 00
Old toggles.....	1 00
	<u>\$3,836 30</u>

The amount of bills approved on account of highways for the fiscal year ended September 30, 1890, was :

Regular appropriation.....	\$211,775 91	
Special appropriations.....	103,700 51	
Appropriation for West Exchange street retaining wall.....	20,000 00	
Contingencies.....	867 58	
		<b>\$336,344 00</b>

Charged as follows :

Repairs on unpaved streets.....	\$41,513 08	
Cleaning streets.....	37,398 46	
Stone—paving and crosswalk.....	24,432 23	
Crushed stone, material and labor.....	18,499 20	
Barn expenses.....	7,143 81	
Salaries, superintendent and clerks.....	5,470 75	
Repairs on paved streets.....	4,977 46	
Blacksmith and wheelwright shop.....	3,891 90	
Tools, implements, etc.....	3,385 42	
Labor on materials.....	2,560 51	
Screening gravel.....	2,269 47	
Steam rollers—repairs and supplies.....	2,179 21	
Repairs on stone crushers.....	2,054 51	
Horses, wagons, harnesses, etc.....	1,720 10	
Removing snow and ice.....	1,207 75	
Watchman at city yard.....	1,048 95	
Sundries.....	551 72	
Fencing streets.....	153 33	
Telephone lines.....	77 82	
Office expenses—city yard.....	55 59	
		<b>\$160,591 27</b>

NEW WORK—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.

Adelaide avenue, from Niagara street to Melrose.....	\$2,022 46	
Admiral street, from Douglas avenue to Mowry street	4,848 57	
Almy street, from Penn to Gesler.....	333 05	
Angell street, from Butler avenue to Wayland.....	160 58	
Atlantic street, from Broad to Niagara.....	2,107 98	
Atlantic street, from Niagara to Hamilton.....	1,648 90	
Atwell's avenue, corner Erastus street, 40 feet easterly	18 43	
Atwell's avenue, corner Erastus street, adjoining estate of Catharine Paisley.....	39 66	
Arthur avenue, from Kenyon to Asia.....	184 98	
Bates street, from Mallett to Riley.....	2,393 11	
Bogman street, from Hilton to Plain.....	1,690 84	

Amounts carried forward.....	\$15,448 56	<b>\$160,591 27</b>
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Amounts brought forward.....	\$15,448 86	\$100,000 00
Chalkstone avenue, from Academy to River.....	3,761 34	
Colwell street, from Plain to Prairie avenue.....	2,994 22	
Congress avenue, from Broad street to Melrose.....	4,337 84	
Covell street, from Atwell's avenue to Amherst street..	1,807 00	
Daboll street, from Updike to Public.....	1,571 83	
Dahlla street, from Cranston to Brattle.....	1,512 03	
Dahlla street, from Brattle to Salem .....	2,151 78	
Darling street, from McKenna to West River.....	536 54	
Dover street, from Carleton to Mount Pleasant avenue	1,678 57	
Erastus street, from Amherst to Atwell's avenue.....	1,509 46	
Farthing street, from Bridge to South Water.....	1,087 91	
Florence street, from Manton avenue to Amherst.....	223 76	
Frank street, from Beacon avenue to Prairie.....	715 72	
Fremont street, from Ives to Gano.....	1,479 02	
Gay street, from Willard avenue to Dudley street.....	2,280 87	
Geasler street, from St. James church to Ridge street..	444 86	
Gladstone street, from Broad to Baxter.....	726 76	
Grove street, from Vinton to Knight.....	680 26	
Halsey street, from Brown to Prospect .....	1,108 02	
Hannah street, from Amherst to Amsterdam.....	42 67	
Hidden street, from Prospect to Brown .....	23 50	
Hill street, from Howard to Perry.....	19 57	
Howe street, from Fenner avenue, 450 feet easterly...	1,003 09	
Jackson avenue, from Potter's to Beckwith street....	75 96	
Joslin street, from Atwell's avenue to Manton.....	759 00	
Lilac street, from Brattle to Salem.....	1,482 30	
North Davis street, from Douglas avenue to old city line.....	51 35	
Oxford street, from Plain to Miner.....	329 02	
Penn street, from Almy to Ridge.....	34 30	
Pomona avenue, from Academy to Pemberton street..	783 26	
Ridge street, from Tobey to Atwell's avenue.....	2,200 03	
Riley street, from Bates to Lippitt.....	727 52	
Roanoke street, from end of curb to Mount Pleasant avenue.....	2,704 44	
Robinson street, from Prairie avenue to Gay street...	2,389 63	
Ruggles street, from Chalkstone avenue to Smith street.....	1,786 72	
South Angell street, from present end of curb to East River street.....	465 35	
Taber avenue, from near Humboldt to Irving.....	215 99	
Tanner street, from Pearl to Dudley.....	2,366 73	
Thayer street, east side, from Power to Williams....	216 03	
Thurber's avenue, from end of curb to Broad street..	4,109 30	
Transit street, from Ives to Gano.....	3,871 30	
Updike street, from Daboll to Public and Peace to Moore.....	1,465 52	
Amounts carried forward.....	\$73,839 74	\$100,591 27

Amounts brought forward.....	\$73,839 74	\$160,591 27
Vandewater street, from Branch avenue to Douglas..	1,600 00	
Villa avenue, from Taber to Arlington.....	1,065 97	
Washburn street, from Common to Orms.....	82 45	
Waterman street, adjoining American Ship Windlass Company.....	22 07	
West Exchange street, from Cove to Ridge.....	16,948 50	
Westfield street from Harrison to Dexter.....	80 96	
		93,699 69

TO BE BROUGHT TO GRADE.

Bogman street, from Plain to Hilton.....	\$912 05	
Bowdoin street, from Kossuth to Appleton.....	525 55	
Irving avenue, from Slater to Butler.....	284 00	
Jackson avenue, lot belonging to Rachel Payne.....	344 75	
Manton avenue, near junction of Chalkstone avenue.	607 03	
Manton avenue, from end of horse car track at Dyer- ville to Chalkstone avenue.....	2,025 79	
Olney street, from East avenue, easterly and northerly	2,281 05	
Peace and Plenty streets.....	96 52	
Penn street, from Ridge to Almy.....	638 26	
Robinson street, from Prairie avenue to Gay street..	190 00	
Slater avenue, from Irving to President.....	285 59	
Transit street, from Ives to Gano.....	1,124 05	
Transit street, from Ives to Gano (lots).....	1,700 00	
		11,016 64

PAVE WITH GRANITE BLOCKS.

Back street, from Orms to Smith.....	\$2,283 88	
Dorrance street, from Fulton to Washington, east of railroad tracks.....	24 75	
Friendship street, from Chestnut to Beacon avenue...	5,655 96	
Greenwich street, from Sprague to Public.....	21 08	
North Main street, from Olney to Randall.....	9,233 21	
		17,218 88

TO TAKE POSSESSION.

Dexter street from Cromwell to Potter's avenue.....	\$9,647 12	
Ocean street, from Richardson to south line of Byfield	622 06	
Pontiac street, from Reservoir avenue to city line....	612 63	
		10,881 81

TO BE BUILT.

Jenkins street, from North Main to Camp.....	\$943 40	
Smith street, from Ruggles street to city line.....	11,941 54	
		12,884 94

TO BE REPAIRED.

Brighton street, from Knight to Courtland.....	\$871 69	
Amounts carried forward.....	\$871 69	\$306,293 23



Amounts brought forward.....	\$871 69	\$306,293 23
Prospect alley, from Hope street to Brook.....	138 41	
Roadway around City Hall.....	1,878 75	
		<u>2,888 85</u>

## SIDEWALKS TO BE CONCRETED, ETC.

Branch avenue and Charles street, adjoining fire station.....	\$247 58	
Candace street, adjacent to grammar school.....	94 87	
Chaffee and Capron streets, adjoining fire station....	186 62	
Harrison street, at fire station.....	126 85	
Oxford street, adjoining school-house.....	29 46	
Smith and Orms streets, adjacent to fire station .....	20 46	
		<u>705 84</u>

## RESET OLD CURB, ETC.

John street, from Benefit to Governor.....	\$301 55	
Power street, from Carrington lane to Governor street	4,123 91	
Thayer street, from Transit to Williams.....	310 37	
Williams street, from South Main to Governor.....:	1,207 45	
		<u>6,123 28</u>

## CONCRETE GUTTERS.

Angell street.....	\$1,224 73	
Broad street, from Friendship to Public.....	605 46	
		<u>1,830 19</u>

## PUT IN GOOD CONDITION.

Lockwood street, from Pine to Plain.....	1,417 46
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## PUT IN SAFE CONDITION.

Adelaide avenue, at intersection with Hamilton street	100 07
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## GRADE APPROACH AND LAY DRAIN PIPE.

Chalkstone avenue, at new Manton bridge.....	686 00
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## REPAIR FOUNTAIN.

Gay street.....	1,434 90
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## BUILD CULVERTS.

Dudley street, between Plain and Culver, etc.....	1,040 53
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## BUILD RETAINING WALL.

West Exchange street.....	12,372 93
Amount carried forward .....	<u>\$334,881 35</u>

Amount brought forward..... \$334,881 36

RAISE BUILDINGS.

West Exchange street, south side..... 483 22

BUILD FENCE.

West Exchange street, north side..... 867 58

CURBING REMOVED, ETC.

Linwood avenue and Althea street, entrance to..... 111 84  
\$336,344 00

SIDEWALKS AND CURBING.

The expenditures on account of sidewalks and curbing, from July 1 to September 30, 1890, inclusive, amounted to . . . . \$1,028 80

Curbing bills deposited with the city treasurer for collection, from July 1 to September 30, 1890, inclusive, amounted to . . . . \$286 68

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$977 74

The amount of bills approved on account of sidewalks and curbing for the fiscal year ending September 30, 1890, was

For granite curbing, . . . . \$38,178 14

CITY ENGINEER.

Bills approved on account of city engineer's department, from July 1 to September 30, 1890, inclusive, amounted to . . . . \$12,929 82

Charged as follows :

Salary, city engineer..... \$1,250 00  
 Salaries of assistants..... 10,129 51  
Amount carried forward..... \$11,379 51

Amount brought forward.....	\$11,379 51
Salaries of clerks.....	737 49
Horse-car tickets, etc.....	232 12
Supplies, drawing materials, etc.....	189 11
City engineer for horse-hire.....	159 00
Instruments and repairs.....	147 58
Horse-hire, barn expenses, etc.....	117 30
Sundries.....	4 65
Meteorological instruments and repairs.....	2 60
	<u>\$12,939 83</u>

The amount of bills approved on account of city engineer's department from May 5, 1890, to end of fiscal year September 30, 1890, was \$22,349 56

Charged as follows :

Salary—city engineer.....	\$2,083 33
Salaries of assistants.....	16,963 57
Salaries of clerks.....	1,239 15
Instruments and repairs.....	606 40
Supplies, drawing materials, etc.....	472 95
Horse-car tickets, etc.....	453 12
City engineer for horse hire.....	241 94
Horse-hire, barn expenses, etc.....	237 04
Sundries.....	50 98
Meteorological instruments and repairs.....	3 08
	<u>\$22,349 56</u>

## BRIDGES.

Bills approved on account of bridges from July 1 to September 30, 1890, inclusive, amounted to \$4,509 35

Charged as follows :

Barn expenses.....	\$34 23
Central or Red bridge.....	85 47
Crawford street bridge.....	3 63
Delaine street bridges.....	6 60
Eagle street bridge.....	5 23
Exchange bridge.....	69 46
Hawkins street bridge.....	1 50
Amount carried forward.....	<u>\$206 12</u>

Amount brought forward.....	\$206 12
Horses, wagons, harnesses, etc.....	32 89
Lumber, hardware, etc.....	31 29
Manton bridge .....	415 72
Nash lane bridge.....	394 13
Park bridges.....	10 15
Park street bridge.....	1 35
Point street bridge.....	613 23
Randall street bridge.....	11 50
Rent of keeper's house, Washington bridge.....	30 00
Salaries—Point street bridge.....	1,003 50
Salaries—Washington bridge.....	500 80
Salaries—Red or Central bridge.....	463 00
Smithfield avenue bridge.....	18 96
Sundries.....	71 73
Telephone lines .....	42 00
Tools.....	100 94
Valley street bridges.....	11 50
Washington bridge.....	91 64
Washington bridge, near India Point .....	455 40
Weybosset bridge.....	4 50
	<hr/>
	\$4,509 35

Bills deposited with the city treasurer for collection, from July 1 to September 30, 1890, inclusive, (for old lumber,) amounted to. . . . . \$1 00

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, (for old lumber,) amounting to . . . . . 1 00

### BRIDGES.

The amount of bills approved on account of bridges from May 5, 1890, to end of fiscal year, September 30, 1890, was . . . . . \$6,763 29

Charged as follows :

Atwell's avenue bridge.....	\$168 19
Barn expenses.....	59 17
Cemetery street bridge.....	5 25
Central or Red bridge.....	190 32
	<hr/>
Amount carried forward.....	\$422 93



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Amount brought forward.....	\$422 18
Charles street bridge.....	1 40
Crawford street bridge.....	3 63
Delaine street bridges.....	6 60
Eagle street bridge.....	5 23
Exchange bridge.....	69 46
Gaspee street bridge.....	8 92
Hawkins street bridge.....	1 50
Horses, wagons, harnesses, etc.....	40 65
Lumber, hardware, etc.....	40 65
Manton bridge.....	426 87
Mill street bridge.....	1 50
Nash lane bridge.....	394 13
Park bridges.....	24 83
Park street bridge.....	19 17
Point street bridge.....	726 16
Randall street bridge.....	12 83
Rent of keeper's house, Washington bridge.....	60 00
Salaries—Point street bridge.....	1,659 25
Salaries—Washington bridge.....	832 40
Salaries—Red or Central bridge.....	767 00
Smithfield avenue bridge.....	18 96
Sundries.....	136 46
Tar bridge (Manton avenue).....	1 00
Telephone lines.....	42 00
Tools.....	133 19
Valley street bridges.....	11 50
Washington bridge.....	94 89
Washington bridge, near India Point.....	795 66
Weybosset bridge.....	4 50
	<hr/>
	\$6,763 29

JOHN A. COLEMAN,

*Commissioner.*

1891.]

CITY DOCUMENT.

[No. 9.]

THIRTY-SECOND  
QUARTERLY REPORT

OF THE

★  
DEPARTMENT OF PUBLIC WORKS

OF THE

CITY OF PROVIDENCE, R. I.

QUARTER ENDING DECEMBER 31, 1890.



The Providence Press:  
SNOW & FARNHAM, CITY PRINTERS,  
37 Custom House Street.  
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**THIRTY-SECOND**  
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# REPORT.

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OFFICE OF THE DEPARTMENT OF PUBLIC WORKS, }  
CITY HALL, PROVIDENCE, R. I., January 1, 1891. }

TO THE HONORABLE THE CITY COUNCIL :

In compliance with the requirements of Chapter iv. of the ordinances, the Commissioner of Public Works respectfully presents the thirty-second quarterly report of the expenditures by the several departments under his direction and control, with statements of work ordered, and the condition and the cost of same for the quarter ending December 31, 1890.

## HIGHWAYS.

Referring to the work performed during the season of 1890, I have to report that at the opening of the year there existed a list of thirty-four streets to be built. During the year this list was augmented by fifty more streets, by order of the Council, making a total of eighty-four streets. Of this number fifteen were built during the year from the regular highway appropriation, and thirty-two from the special appropriation.

A large amount of paving with granite blocks has been done, including one section in front of the City Hall, which was laid upon a foundation of concrete.

During the year the worn out concrete paving around the City Hall was replaced by new concrete, laid in an improved manner, which promises far greater durability than that laid by the old method.

A heavy amount of macadamizing, upon old as well as new streets, has been done. On old, worn out streets, the

curbstones have been reset, modern gutters made, the roadway cut down to the normal grade, and macadamized, and the streets made as good as new.

The books show that the amount of highway work performed by the department in 1890 is larger than that of any previous year.

Between 550 and 600 men and the proper complement of teams were continuously employed from April 1st until stopped by frost in December.

The approximate amounts of street work done are as follows :

New streets built.....	30,000 lineal feet.
Curbing set.....	58,000 lineal feet.
Streets rebuilt.....	30,000 lineal feet.
Streets resurfaced.....	28,450 lineal feet.
Block pavement laid.....	17,763 square yards.
Block pavement relaid.....	Large amount.
Cobble pavement relaid.....	Large amount.
New streets graded.....	12,000 lineal feet.
Streets machine swept during 1890.....	400 miles.
Gutters cleaned during 1890.....	960 miles.

In addition, openings have been made for new streets, general repair work has been done upon old streets, and cross-walks put in, all involving a large amount of work.

Where old cross-walks are replaced with new, the old stone is recut at the yard in the winter months, and such as is unsuitable for cross-walks is cut into paving blocks, and the residue thrown into the stone crusher.

The powerful stone crusher which was erected late in 1889 has proved a valuable adjunct to the highway work. It has run fifteen months, with only slight interruption, to replace worn out dies, etc., and has shown a saving in repairs over the two old crushers of \$1,300 per year, besides producing 200 tons of stone per day, against less than 150 tons by the two old machines. Moreover the quality of breaking is far superior, the percentage of unsuitably broken stone having been less than one-fifth that from the old breakers. Nearly

50,000 tons of stone have been broken during the past year. For the first time an absolute stone famine was felt at the city yard in the height of the season, and resort was had to the heaps of coarse, unfitly broken stone from the old machine, which had long lain in the yard. This stone was re-broken in the new machine, to keep it in operation and to furnish sufficient crushed stone to keep the street gangs at work.

### MACADAMIZED STREETS.

Reference was made last year to the abandonment of the highly rounded form of roadway which formerly characterized the streets of this city. All new streets, and all rebuilt streets, have been flattened, and gutters made to correspond, so that 25 per cent. more roadway has been obtained, especially where the gutters are covered with concrete. The form adopted has the further advantage of increased durability and improved appearance. After two years' experience in this department I wish to repeat and emphasize the statement made last year, that it is useless to expect to maintain good macadamized roadways in narrow streets, where there are car tracks, except by the expenditure of 300 per cent. more money for repairs than other streets require. Such streets should be paved. The fact is too obvious to require a repetition of last year's argument. It is also useless to expect to maintain good macadamized roadways until the agents of the people protect the tax-payers by laws prohibiting narrow wagon tires for heavy vehicles. Broadway is a good illustration of a most expensive roadway hopelessly ruined in a few years by a procession of heavy teams, carrying from one to nine tons and upwards, each with tires so narrow that they pulverize the road surface, and keeps what should be one of the finest residential streets, in a chronic state of dust or mud. This roadway was resurfaced three years ago at a heavy expense. It has been patched and repaired every five weeks during the past two years. It is

now completely worn out. To put it again in order will require an expenditure of over twenty thousand dollars; but at the end of three years, if the present vicious tires are allowed to be continued there will be nothing to show for the money but a worn out roadway. Seven thousand dollars a year upon a street like Broadway, is an extravagance which would not be tolerated in first-class cities like Paris or London, and certainly cannot be afforded by a city of the size of Providence. What is true of Broadway is, in a large measure, true of all the main macadamized thoroughfares of this city, like Broad, Pine, Clifford and Benefit streets.

The city of Liverpool has 240 miles of streets paved like Westminster street. Bonds were issued several years ago, and a sinking fund created. The expenses have been reduced until only \$40,000 per annum are now required to maintain the 240 miles of paving.

We have 173 miles of streets, of which less than twenty-five miles are paved with block and cobble stones. The rest are macadamized or turnpiked. It is safe to say that if our streets were maintained as they should be, our 173 miles of streets would cost, for maintenance, \$100,000 per year.

Liverpool, Glasgow, and other cities, with their fine system of paving, at the end of five years have handsome pavements to show for their money. Providence, at the end of the same time, has nothing to show for its money upon its main macadamized thoroughfares, where the traffic is heavy, but worn-out roadways. Cheapness, in this particular, is false economy.

It would seem that the abolishment of narrow tires could be accomplished by charging a license of twenty dollars for all vehicles with improper tires, and nothing for the licenses of such vehicles as had tires of dimensions prescribed by law. It would then be optional with the owners of teams to pay for the privilege of destroying the roads which the larger body of tax-payers have paid for, or to adopt tires of a proper width.

### STREET SWEEPING AND CLEANING.

The system of street cleaning, which was inaugurated last year, has worked well. The streets are cleaned in the night, the work being entirely completed before daylight. Former annoyances to the public, of dust, interruption and confusion, have by this process been abolished. Large economy has resulted, and at the same time the area swept by the machines has been greatly extended.

The system of day sweeping, by which the streets are kept free from dust, mud, etc., seems to have been appreciated by the public, and the department is continually receiving expressions of approval, from not only the citizens, but from residents of other cities. The area swept by the day gangs has been increased quite one hundred per cent., at but small additional cost. This has been accomplished by discharging the incompetent and employing only sober, industrious men.

The experiment of watering main thoroughfares has been made to a limited extent, as a measure of maintenance. It is an undoubted success. As an instance in point: Gaspee street, over which hundreds of heavy teams constantly pass, required hoeing, with a large gang of men, every two weeks. It was watered during the latter half of the season, and nothing further was required from the street gangs.

### SEWERS.

During the year about  $4\frac{1}{4}$  miles of new sewers have been constructed, making the total length, exclusive of the improved sewerage system, about  $67\frac{1}{4}$  miles.

The completion of the sewer in West Exchange street has furnished an outlet for a large section heretofore deprived of proper drainage, and a considerable portion of the sewers built have been those finding their outlet through the sewers in West Exchange and Dorrance streets.

A new portable sewer trap has been invented in the Public Works Department, which promises results far beyond the apparent insignificance of the article itself. There are over 1,700 catch basins with old-fashioned traps. These old traps can be replaced by the new traps at a cost of less than four thousand dollars, and a saving effected in the sewerservice of nearly five thousand dollars per year. About thirty are in use and their operation entirely warrants this statement.

#### IMPROVED SEWERAGE SYSTEM.

Contracts were let for six sections of the Elmwood division of the new sewerage system, three of which have been worked. Section 1 is nearly completed, and Section 5 is in a forward state. Section 8, near Elmwood, has proved difficult and dangerous, as bad quicksand has been encountered, which has severely taxed the mechanical resources of the contractors. Estimates for the remaining sections of the Elmwood division are nearly prepared and proposals for same will be advertised early in January. The coming year should see this important work completed.

#### ENGINEERING DEPARTMENT.

In compliance with the act of the Legislature, passed May 1st, 1890, placing the engineering department of the city under the control of the Commissioner of Public Works, Mr. J. Herbert Shedd was, on May 5th, appointed city engineer. Mr. Shedd entered immediately upon his duties. This change has resulted, happily, in producing harmony between these important branches of the public service, and all in the two departments have worked together for the public good.

#### BRIDGES.

A thorough examination of all the bridges of the city has been made with a view to needed repairs and reconstruction,



the result of which examination has already been reported in detail to the city council.

### WATER WORKS.

The Water Department is in a flourishing condition. The increase of water-takers has been larger than in any year since 1878. To meet this increased demand for water has required 8.51 miles of pipe to be laid, or 50 per cent. more than the usual quantity. To lay this extra quantity has required a corresponding addition to the force in the water service. The increase of water-takers has produced a surplus of \$25,000 over interest and expenses. In view of this increase of income, and to induce a more liberal use of water, as well as to encourage the introduction of new industries, the department, with the approval of the city council, decided upon a reduction of the water rates, which goes into effect January 1st, 1891. It is expected that a deficiency in the receipts to pay maintenance and interest will result for a short time; but a liberal policy, for the city's true interest, demands that cheap water shall be furnished, and it is a fair presumption that the result of that policy will be to render the period brief before the water department will again be upon a self-sustaining basis.

The steam plant of the water works has been thoroughly overhauled and is working well.

The buildings at the pumping stations have been put in order and are being painted. The iron railing around the Hope reservoir has been straightened, the heavy granite gate posts reset, and the iron fence and railing been thoroughly scraped of rust and painted.

### COAL BURNING.

Records kept at the Pettaconset pumping-station justify the expectation that was entertained that the new system of coal-burning, which was inaugurated last year, would result

in a large economy. The saving in cost for fuel, for the year, over the service of former years, was \$2,443. A still greater saving would result if proper arrangements were made to deliver coal directly into the coal houses from the cars.

#### FRUIT HILL RESERVOIR.

In my report for 1889, mention was made that Fruit Hill reservoir had been completed and filled, and in consequence economical changes would be made in the pumping service at the Hope station. Owing to the leakage of the reservoir this has not been realized. Repairs are in progress necessitating a large amount of material and labor. The extent and character of the repairs have already been reported to the Council in detail. The rigorous winter has caused the cessation of active work, with the exception of the cartage of clay. On the opening of Spring, work will be resumed.

#### INCREASED PUMPING MACHINERY.

The time is at hand when it will be necessary to consider an increase of the pumping plant at the Pettaconset station. The Corliss engine is working to nearly its full capacity, running about 22½ hours per day for six days in the week. It is manifestly unsafe to run upon the present margin, as in case of breakdown to the Corliss engine, the water service would be dangerously crippled.

#### DEFILEMENT OF THE PAWTUXET.

The Department has taken active measures throughout the year to prevent defilement of the Pawtuxet and its tributaries. The greater proportion of nuisances have been removed, and the department has had the active co-operation of many of the mill corporations bordering upon the stream. There are several manufacturing establishments, however, which are serious offenders against the laws governing this

important matter. For years the proprietors have been admonished, but nothing has resulted beyond assurances that the nuisances complained of should cease, when they discovered a suitable process for disposal of their wastes. The limits of tolerance have been reached, and vigorous measures must be taken against these parties if the citizens of Providence wish to have pure water for themselves and their children, in return for the millions of money spent by the citizens for that purpose. The Commissioner of Public Works is amply prepared to prove that there is something more than sentiment involved in this matter.

### CITY WATER YARD.

This yard is situated upon the west side of the Providence river, below Point street bridge. All water and sewer material is kept at this depot, amounting to hundreds of tons.

During the year nine vessels, with 5,000 lengths of water pipe, or about 60,000 feet, have discharged at the city wharf. Twelve vessels, with 875,000 brick, and one vessel and twenty-eight cars of sewer pipe, or about 27,000 feet, have also discharged at the same place.

Twelve thousand barrels of cement have been tested at the yard during the year.

Six hundred and eighty-seven service supplies were laid during the year, the largest number laid in one year since 1878.

Men are kept at the yard night and day throughout the year, in readiness for the instant repair of any leaks, or accidents, which may occur in the 226 miles of water pipe belonging to the city, or to the 15,820 service pipes.

The quality of the material and work is attested by the fact that calls were made upon the department only thirteen times in the past year, to repair leaks, only two of which were attributable to defective material or construction.

## GENERAL DETAILS.

October 22d a lease of the "Randall Estate," so-called, at Pawtuxet, was executed with Alexander Brothers, for one year, from October 1, 1891, at an annual rental of three hundred dollars.

December 12th, the offer of Harrison Hallett to do painting at Hope Engine and Gate Houses, was accepted.

December 23d, the offer of the Fales & Jenks Machine Company to furnish 25 fire hydrants, 30 fire hydrant boxes, 10 extra hydrant box covers, and 5 street sprinkler covers, delivered at the city yard, foot of Point street, was accepted.

December 24th, the offer of the Whittier Machine Company to furnish, delivered on cars in this city, 5 eight-inch, 75 six-inch, and 30 four-inch water gates, was accepted.

December 31st, the offer of John W. Lyon to furnish, delivered at the pipe yard :

600 $\frac{1}{2}$ inch stops,	600 $\frac{1}{2}$ inch taps,
30 $\frac{3}{8}$ " "	50 $\frac{5}{8}$ " "
20 $\frac{3}{4}$ " "	20 $\frac{3}{4}$ " "
50 1 " "	10 1 " "

was accepted. Amount, . . . . . \$1,253 90

The average daily consumption of water during the last quarter was 6,399,812 gallons, and the average daily consumption for the year 1890 was 6,743,092 gallons.

Water pipes were laid during the quarter, as follows :

8-INCH.	
In Smithfield avenue.....	908.39 feet.
6-INCH.	
In Allston, Althea, Amsterdam, Autumn, Canton, Cemetery, Chatham, Concannon, Concord, Dexter, Dover, Evergreen, Fillmore, Gray, Handy, Hassan, Inkerman, Leah, Linton, Newark, Official, Oregon, Parnell, Robin, Sixth, Smith, Station, Tallman, Tyler, Waldo and Wickenden streets, Fallon, River and Young Orchard avenues, in Cato street, Town of Cranston, and in Providence street, Laurel Hill, Lawn and Union avenues, Town of Johnston.....	11,565.60 feet.
Total.....	12,474.19 feet,
or 2.36 + miles	

Water pipes were removed during the quarter, as follows :

8-INCH.

In Smithfield avenue..... 915.23 feet,  
or .173 + miles.

Statement of sizes and lengths of pipe laid since the commencement of the work :

36-inch.....	10,084.	feet.
30-inch.....	59,637.	feet.
24-inch.....	43,418.92	feet.
20-inch.....	9,626.59	feet.
16-inch.....	31,746.36	feet.
12-inch.....	69,179.23	feet.
10-inch.....	14,471.76	feet.
8-inch.....	171,600.48	feet.
6-inch.....	783,840.92	feet.

Total.....1,193,605.26 feet,  
or 226.06 + miles.

Eight fire hydrants were set during the quarter, one in each of the following locations :

Cemetery street, east side, at southerly corner of Concord street.

Parnell street, east side, about 320 feet from angle in street.

Plainfield street, Johnston, east side, about 300 feet south of gate south of angle in street.

Providence street, Johnston, north side, 300 feet west of Laurel Hill avenue.

Rye street, Johnston, east side, about 162 feet south of Plainfield street.

Union avenue, Johnston, at northwest corner Laurel Hill avenue.

Union avenue, Johnston, 440 feet west of Laurel Hill avenue.

Waldo street, northerly side, about 320 feet west of Cranston street.

The total number of fire hydrants is now thirteen hundred and sixty-three: thirteen hundred and fifty-one flush and twelve post hydrants.

The work of laying the following list of water pipes was in process at the close of the quarter :

No. of resolution. Date of approval.

365. July 18, 1888, *Mount Pleasant avenue, extension from Chalkstone avenue to Smith street. 1,213.5 feet of 12-inch pipe laid; the balance cannot be properly laid until the street is graded.*

No. of resolution. Date of approval.

495. Aug. 4, 1890, *Plainfield street, Johnston; about 1,570 feet laid.*

Work had not commenced upon laying water pipes in the following streets, December 31, 1890 :

492. Aug. 4, 1890, *Chalkstone and Winthrop avenues.*
557. Sept. 20, " *Hartford street, Johnston, from end of pipe at Alverson avenue, westerly.*
610. Oct. 17, " *Howard street, Johnston, from Lewis street, southwesterly.*
613. " " " *Spencer street, easterly from Harkness.*
644. " 20, " *Douglas avenue, from end of pipe northerly.*
669. Nov. 10, " *Aurora street, from Harold street westerly.*
671. " " " *Chalkstone and Standish avenues.*
672. " " " *Vermont street, Johnston, from Manton avenue northerly.*
693. " 22, " *Hartford road, Johnston, from end of pipe to Rocky Hill avenue.*
694. " " " *Lawn street, from end of pipe northerly.*
695. " " " *Lisbon street, from Regent street northerly.*
717. Dec. 6, " *Payton street, from Broad street westerly.*
718. " " " *Waldo street, from end of pipe westerly.*

During the quarter two hundred and two water meters were set, of which number ten were to replace other meters. The use of three meters was discontinued.

The following meters were in use at the close of the quarter :

KIND.	SIZE.							Total.
	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	1-in.	1 $\frac{1}{4}$ -in.	2-in.	3-in.	4-in.	
Ball & Fitts, piston.....	3,032	590	146	41	6	.....	.....	3,815
Ball & Fitts, rotary.....	.....	.....	22	24	3	5	3	57
Crown.....	4,457	632	165	74	20	6	4	5,368
Fales, Jenks & Sons.....	1	1	1	.....	.....	.....	.....	3
Thomson.....	28	2	.....	.....	.....	.....	.....	30
Worthington.....	20	1	.....	.....	1	.....	1	23
	7,538	1,226	334	139	30	11	8	9,286

Two plumber's licenses were issued during the quarter, making the total number for the year sixty-eight.

Seven hundred and ninety-three permits to do plumbing work were issued during the quarter.

One hundred and sixty-seven applications for water were made during the quarter, making the total number December 31, 1890, sixteen thousand four hundred and ninety.

The number of new service stops opened during the quarter was one hundred and seventy-six.

The total number of service stops opened to December 31, 1890, inclusive, was fifteen thousand eight hundred and twenty. The number in actual use December 31, 1890, was fourteen thousand eight hundred and sixty-nine.

The following is a list of street sprinklers ready for use on the Providence Water Works :

America street and Atwell's avenue.  
 Arnold street, near Plainfield street, Johnston.  
 Broad street and Gallup.  
 Beacon street and Friendship.  
 Barton street and Broadway.  
 Bradford street and Broadway.  
 Broad street and Public.  
 Benefit street, between North Main and Halsey.

Benefit street, foot of Angell.  
Broad street, near "Round Top" Church.  
Brown street, near Plainfield street, Johnston.  
Cranston street, opposite Arlington street, Cranston.  
Coddling street, near High.  
Cranston street, east side of railroad bridge.  
Crary street, between Eddy and Hospital.  
Dike street, near Branch.  
Doyle avenue, near East.  
Doyle avenue, near North Main street.  
Dexter street, opposite Division.  
Exchange Place, east end.  
Exchange Place, west end.  
Governor street, near Waterman.  
Hope street, junction of Thayer.  
Hope street, corner of Wickenden.  
Hayward street, south of Somerset.  
John street, near Benefit.  
Knight street, near Grove.  
Manning street, near Brook.  
North Main street, near Thomas.  
North Main street, near Mill.  
Oxford street, near Eddy.  
Oakland street, near Greenwich.  
Orms street, near Back.  
Olney street, near Camp.  
Plenty street, near Greenwich.  
Public street, two hundred feet east of Temple.  
Potter street, corner of Friendship.  
Power street, west of Hope.  
Promenade street, west of Gaspee.  
Reservoir avenue, opposite Atlantic street.  
Rocky Hill avenue, near Plainfield street, Johnston.  
Sabin street, between Beverly and Aborn.  
Transit street, between South Water and South Main.  
Winter street, near Pond.  
West Friendship street, near Broad.  
Washington street, corner of Dean.  
Wayland avenue, south of Douglas.  
Wood street, west of Messer.  
Roger Williams Park, Broad street entrance, (private).

The following is a list of drinking troughs supplied with water by the Providence Water Works, viz. :

Angell street, near Brown.  
Angell street and South Angell.  
Atwell's avenue, junction of Harris.  
Atwell's avenue, junction of Manton.  
Bassett street, off of Hospital.  
Branch avenue and Charles street.



Branch avenue, off of Cozzens lane.  
Broad street and Eddy.  
Broad street, near Mathewson.  
Broad street and Prairie avenue.  
Broadway, junction of High street.  
Canal street, near Exchange Place.  
Canal street, near Railroad crossing.  
Chalkstone avenue, opposite Academy.  
Chalkstone avenue and Smith street.  
Cove street and Washington.  
Crawford street bridge.  
Douglas avenue and Admiral street.  
Douglas avenue and Chalkstone.  
Dyer street, junction of Eddy.  
East River street and Waterman.  
Federal street, junction of Kenyon.  
Fountain street, junction of Carpenter.  
High street, junction of Cranston.  
Hope street and Thayer.  
Manton avenue, Johnston, at end of pipe line.  
North Main street, junction of Benefit.  
Pettaconset Pumping Station.  
Plainfield street, Johnston, junction of Dyer avenue.  
Point street, between Eddy and bridge.  
Point street, junction of Friendship.  
Potter's avenue and Cranston street.  
Public street, junction of Greenwich.  
Randall Square.  
Reservoir avenue, junction of Pontiac road.  
South Main street, junction of Wickenden.  
Swan Point road, at brook east of Butler avenue.  
Trinity Square.  
Wickenden street, between Traverse and Brook.

The following table shows the lengths, sizes, etc., of services laid during fourteen years ending December 31, 1900:

YEARS.	LENGTHS OF SERVICES LAID IN FEET.										TAPS USED.										STOPS USED.										SERVICE BOXES USED.												
	SIZES OF PIPES.										Totals.	Trench- ing.	Paving.	TAPS USED.										STOPS USED.										SERVICE BOXES USED.									
	1/4 inch.	3/8 inch.	1 inch.	1 1/4 inch.	1 1/2 inch.	7.	13,710.5	14,422.44	2,105.07	1/4 in.				3/8 in.	1 in.	1 1/4 in.	1 1/2 in.	Total.	1/4 in.	3/8 in.	1 in.	1 1/4 in.	1 1/2 in.	Total.	1/4 in.	3/8 in.	1 in.	1 1/4 in.	1 1/2 in.	Total.	1/4 in.	3/8 in.	1 in.	1 1/4 in.	1 1/2 in.	Total.							
1877.....	2,776.8	8,679.3	1,884.4	248.8	114.2	7.	13,710.5	14,422.44	2,105.07	173	571	114	15	6	879	373	571	114	15	6	879	13	427	91	7	13	671	348	464	91	7	13	722	896	728								
1878.....	2,209.8	6,881.8	1,436.6	119.4	129.7	35.3	10,803.6	11,365.58	1,659.34	133	427	91	7	13	671	348	464	91	7	13	722	101	335	57	17	9	519	369	389	66	17	9	575	603	572								
1879.....	1,624.9	6,107.5	874.4	275.7	66.2	7.	8,955.7	9,421.40	1,375.62	136	334	66	25	17	578	141	358	67	26	17	469	136	334	66	25	17	578	141	358	67	26	17	469	603	572								
1880.....	2,103.6	6,161.2	1,150.0	483.6	186.1	16.9	9,951.4	10,498.87	1,598.45	.....	392	53	21	18	554	71	411	47	17	18	564	.....	511	49	17	15	502	.....	525	41	18	14	565	610	603								
1881.....	1,078.9	6,399.4	741.1	253.1	233.4	8.4	8,584.3	9,067.2	1,350.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1882 ..	.....	8,073.8	581.3	226.4	92.	32.	9,006.5	9,481.5	1,020.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1883.....	9.	8,075.83	701.04	143.	131.9	60.	9,180.82	9,649.5	1,584.5	1	508	61	12	11	506	2	537	44	10	13	506	.....	512	64	18	17	611	.....	539	51	15	13	618	641	603								
1884.....	.....	8,048.72	732.2	266.3	119.6	23.2	9,180.02	9,715.5	1,051.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1885.....	33.9	7,971.76	667.1	106.4	34.	28.4	8,841.58	9,383.	1,109.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1886.....	23.	7,764.0	699.5	115.4	98.0	25.4	8,730.5	9,213.5	985.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1887.....	.....	8,381.8	456.6	81.4	75.8	20.2	9,015.8	9,422.	1,164.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1888.....	.....	7,190.6	553.6	66.8	105.2	55.8	8,278.0	8,708.	1,072.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1889.....	.....	9,311.9	514.2	199.	90.2	8.2	10,923.5	10,508.	1,135.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1890.....	.....	8,997.8	671.3	194.7	241.6	61.3	10,164.6	10,752.5	1,183.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1891.....	.....	107,512.03	11,728.30	2,780.	1,700.5	396.	131,433.82	131,433.79	17,978.74	612	6,467	679	211	175	8,044	816	7,030	100	160	8,209	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								
1892.....	9,919.9	107,512.03	11,728.30	2,780.	1,700.5	396.	131,433.82	131,433.79	17,978.74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								

December 31, 1890 :

MONTHS.	LENGTHS OF SERVICES LAID IN FEET.										TAPS USED.					STOPS USED.					Service Boxes Laid.
	SIZES OF PIPES.					Trench-Ing.	Paving.	Total.	TAPS USED.					STOPS USED.							
	¾ in.	¾ in.	1 in.	1¼ in.	1½ in.				¾ in.	¾ in.	1 in.	1 in.	Total.	¾ in.	¾ in.	1 in.	1 in.	Total.			
January.....	108.4	.....	.....	8.2	.....	123.	8.	116.6	.....	.....	1	1	8	.....	7	.....	1	8	9		
February.....	173.	.....	.....	.....	.....	181.	53.	173.	.....	.....	.....	.....	10	.....	10	.....	.....	10	10		
March.....	508.8	.....	.....	.....	.....	533.	91.5	508.8	.....	.....	.....	.....	30	.....	30	.....	.....	30	30		
April.....	939.9	117.4	49.2	61.	20.2	1,260.5	174.	1,207.7	.....	.....	2	2	72	.....	61	8	1	2	75		
May.....	762.7	20.2	8.2	27.2	22.	889.5	104.	840.3	.....	.....	3	1	51	.....	47	1	1	2	54		
June.....	1,308.6	110.2	.....	40.2	.....	1,516.	188.	1,450.	.....	.....	8	.....	3	78	.....	71	6	3	82		
July.....	1,082.8	86.7	34.1	20.2	.....	1,291.	67.	1,223.8	.....	.....	4	1	82	.....	74	6	3	1	87		
August.....	955.8	77.	.....	38.4	.....	1,131.	95.	1,071.2	.....	.....	7	1	74	.....	67	5	.....	2	77		
September.....	913.	109.4	36.4	.....	19.	1,137.	78.5	1,077.8	.....	.....	12	4	1	70	.....	62	8	2	76		
October.....	742.2	51.4	.....	.....	.....	835.5	99.5	793.6	.....	.....	4	.....	.....	46	.....	48	2	.....	53		
November.....	1,002.8	99.	42.8	46.4	.....	1,358.	117.5	1,191.	.....	.....	9	3	4	81	.....	70	6	3	86		
December.....	479.8	.....	24.	.....	.....	537.	107.	503.8	.....	.....	1	1	.....	38	.....	39	.....	1	41		
Total.....	8,997.8	671.3	194.7	241.6	61.2	10,792.5	1,183.	10,166.6	649	58	17	16	640	.....	586	42	11	15	680		

The following table shows the lengths, sizes, etc., of services laid during fourteen years ending December 31, 1890:

YEARS.	LENGTHS OF SERVICES LAID IN FEET.										TAPS USED.					STOPS USED.					Service Boxes Used.						
	SIZES OF PIPES.										Trench- ing.	Paving.	TAPS USED.					STOPS USED.									
	¾ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	Totals.	TAPS USED.					STOPS USED.														
								¾ in.	½ in.	¾ in.			1 in.	1¼ in.	1½ in.	¾ in.	½ in.	¾ in.	1 in.	1¼ in.		1½ in.	Total.				
1877....	2,776.8	8,679.3	1,884.4	248.8	114.2	7.	13,710.5	14,422.44	2,105.67	173	571	114	15	6	879	173	571	114	15	6	879	173	571	114	15	6	879
1878....	2,209.8	6,481.8	1,436.6	119.4	120.7	35.3	10,803.6	11,366.38	1,659.34	333	427	91	7	13	671	148	464	91	7	12	722	148	464	91	7	12	722
1879....	1,024.9	6,107.5	874.4	275.7	66.2	7.	8,956.7	9,421.40	1,375.52	101	335	57	17	9	519	109	380	60	17	9	575	109	380	60	17	9	575
1880....	2,163.0	6,951.2	1,150.0	483.6	186.1	16.9	9,951.4	10,468.87	1,285.45	136	334	66	25	17	578	141	358	67	25	17	609	141	358	67	25	17	609
1881....	1,078.9	6,569.4	741.1	253.1	233.4	8.4	8,584.3	9,067.2	1,350.6	28	392	55	21	18	554	71	411	47	17	18	564	71	411	47	17	18	564
1882....	.....	8,073.8	581.3	226.4	92.	32.	9,005.5	9,481.5	1,020.	.....	511	49	17	15	502	.....	525	41	15	14	505	.....	525	41	15	14	505
1883....	9.	8,075.83	761.06	143.	131.9	60.	9,180.82	9,540.5	1,284.5	1	508	61	12	14	506	2	537	44	10	13	506	2	537	44	10	13	506
1884....	.....	8,048.72	732.2	266.3	119.6	23.2	9,190.02	9,715.5	1,054.6	.....	512	64	18	17	611	.....	539	51	15	13	618	.....	539	51	15	13	618
1885....	33.9	7,971.79	667.1	100.4	34.	28.4	8,841.58	9,285.	1,100.5	.....	490	48	11	7	556	3	519	32	5	0	563	3	519	32	5	0	563
1886....	23.	7,764.6	699.5	115.4	96.6	25.4	8,756.5	9,213.5	965.5	.....	481	64	13	12	570	.....	518	49	7	11	585	.....	518	49	7	11	585
1887....	.....	8,381.8	456.6	81.4	75.8	20.2	9,015.8	9,422.	1,104.1	.....	516	47	11	11	585	.....	543	52	7	10	597	.....	543	52	7	10	597
1888....	.....	7,496.6	553.6	64.8	105.2	53.8	8,278.0	8,768.	1,072.5	.....	405	52	9	10	566	.....	519	39	5	10	573	.....	519	39	5	10	573
1889....	.....	9,211.9	514.2	190.	90.2	8.2	10,023.5	10,568.	1,193.5	.....	546	53	18	10	627	.....	579	57	13	0	634	.....	579	57	13	0	634
1890....	.....	8,997.4	671.3	194.7	241.6	61.2	10,160.6	10,792.5	1,183.	.....	540	58	17	10	540	.....	586	47	11	15	604	.....	586	47	11	15	604
TOTALS.	28,910.6	107,912.03	11,723.30	2,796.	1,706.5	364.	131,414.82	141,633.79	17,076.78	633	6,407	879	211	179	8,544	615	7,049	740	169	100	8,709	615	7,049	740	169	100	8,709

December 31, 1890 :

MONTHS.	LENGTHS OF SERVICES LAID IN FEET.										TAPS USED.					STOPS USED.					Service Boxes Used.
	SIZES OF PIPES.						Total.	Trench- ing.	Paving.	TAPS USED.					STOPS USED.						
	$\frac{1}{2}$ inch.	$\frac{3}{4}$ inch.	1 inch.	1 $\frac{1}{4}$ inch.	1 $\frac{1}{2}$ inch.					$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{3}{8}$ in.	1 in.	Total.	$\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{3}{8}$ in.	1 in.	Total.		
January.....	.....	108.4	.....	.....	8.2	.....	116.6	123.	8.	6	.....	1	1	8	.....	7	.....	.....	1	8	9
February.....	.....	173.	.....	.....	.....	.....	173.	181.	53.	10	.....	.....	.....	10	.....	10	.....	.....	.....	10	10
March.....	.....	508.8	.....	.....	.....	.....	508.8	533.	91.5	30	.....	.....	.....	30	.....	30	.....	.....	.....	30	30
April.....	.....	950.9	117.4	49.2	61.	20.2	1,307.7	1,260.5	174.	59	9	2	2	72	.....	61	8	1	2	72	75
May.....	.....	762.7	20.2	8.2	27.2	22.	840.3	889.5	104.	45	3	1	2	51	.....	47	1	1	2	51	54
June.....	.....	1,308.6	110.2	.....	40.2	.....	1,459.	1,516.	188.	67	8	.....	3	78	.....	71	6	.....	3	80	82
July.....	.....	1,082.8	86.7	34.1	20.2	.....	1,223.8	1,391.	67.	72	5	4	1	82	.....	74	6	3	1	84	87
August.....	.....	955.8	77.	.....	38.4	.....	1,071.2	1,131.	95.	64	7	1	2	74	.....	67	5	.....	2	74	77
September.....	.....	913.	109.4	36.4	.....	19.	1,077.8	1,137.	78.5	53	12	4	1	70	.....	62	8	2	1	73	76
October.....	.....	742.2	51.4	.....	.....	.....	793.6	835.5	99.5	42	4	.....	.....	46	.....	48	2	.....	.....	50	53
November.....	.....	1,002.8	99.	42.8	46.4	.....	1,191.	1,358.	117.5	65	9	3	4	81	.....	70	6	3	3	82	86
December.....	.....	479.8	.....	24.	.....	.....	503.8	537.	107.	36	1	1	.....	38	.....	39	.....	.....	1	40	41
Total.....	.....	8,997.8	671.3	194.7	241.6	61.2	10,166.6	10,792.5	1,183.	549	58	17	16	640	.....	586	42	11	15	684	680

## Changes in size and location of services in 1890.

TAPS AND STOPS.										SIZES AND LENGTHS OF LEAD PIPE.									
TAKEN OUT.					INSERTED.					TAKEN OUT.					INSERTED.				
$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$\frac{1}{4}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$\frac{1}{4}$ inch.	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	1 inch.	$1\frac{1}{8}$ inch.
31	15	1		2		28	10 <sup>00</sup>	7	3		8	510.2	270	8	58.2	411.3	212.7	100.8	23.6
										Trenching.									
										Paving.									
										Change in size only.									
										Change in location only.									
										Change in both size and location.									

The following table exhibits the number of service stops opened each month from the commencement to December 31, 1890.

MONTHS.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
January.....	54	33	21	34	55	15	49	9	20	7	47	15	21	17	18	26	7	39	36	
February.....	47	18	18	7	25	23	18	9	19	3	11	9	10	7	15	7	10	21	25	
March.....	38	34	63	7	45	32	60	19	46	23	39	11	28	9	24	16	14	19	28	
April.....	100	109	108	32	108	82	78	52	58	55	49	55	62	48	68	69	98	61	53	
May.....	224	206	147	162	168	136	95	80	84	66	72	78	62	62	61	70	82	74	66	
June.....	329	295	151	172	148	114	103	71	109	82	48	64	81	81	59	50	86	59	80	
July.....	333	261	157	141	158	83	80	49	75	56	77	66	76	77	83	62	69	74	67	
August.....	224	209	123	83	94	91	51	51	39	28	87	69	61	57	71	49	52	56	76	
September.....	184	147	139	101	94	80	63	44	37	66	67	93	50	70	59	74	65	64	77	
October.....	138	135	109	92	84	81	78	79	48	61	56	37	65	62	52	89	70	64	54	
November.....	100	104	183	86	54	73	57	63	54	37	64	49	51	39	57	69	47	58	73	
December.....	50	81	122	60	35	53	45	47	29	40	27	56	44	46	28	49	42	53	60	
	36	1,863	1,206	1,264	977	1,008	863	777	573	618	548	614	612	611	575	595	612	570	684	

The receipts for water each year since the commencement have been as follows :

Year.	Amount.	Year.	Amount.
1872.....	\$41,003 51	1882.....	\$200,318 77
1873.....	97,386 09	1883.....	283,632 89
1874.....	132,052 39	1884.....	302,368 36
1875.....	165,144 71	1885.....	313,561 21
1876.....	183,868 73	1886.....	323,084 67
1877.....	200,039 39	1887.....	330,513 60
1878.....	218,883 33	1888.....	346,731 58
1879.....	229,551 78	1889.....	377,497 97
1880.....	247,706 06	1890.....	401,140 86
1881.....	260,530 87		

The amount of bills approved on account of water works, from October 1 to December 31, 1890, inclusive, was

For construction and extension, . . . \$50,457 50

Classified as follows :

Fruit Hill reservoir, for repairs.....	\$ 29,903 13
Fruit Hill reservoir, for construction.....	619 94
Cast iron water pipe.....	11,965 04
Laying water pipes.....	2,790 45
Fire hydrants, boxes and covers.....	2,513 92
Laying service pipes.....	739 03
Rent of wharf and pipe yard.....	625 00
Stop valves.....	306 00
Special castings.....	256 87
Labor on and carting pipes.....	230 61
Barn expenses.....	172 09
Wharf salaries.....	150 00
Horses, wagons, harnesses, etc.....	71 63
Tools.....	59 56
Taps and stops.....	54 23
	<b>\$50,457 50</b>

For maintenance, . . . \$26,427 62

Classified as follows :



## PETTACONSET PUMPING STATION.

Coal and wood.....	\$3,343 66	
Engineers.....	625 00	
Sundries.....	570 23	
Firemen.....	506 60	
Superintendence.....	250 00	
Care of grounds.....	212 26	
Lights.....	205 75	
Corliss pumping engine and house.....	181 99	
Labor on fuel.....	111 00	
Oil, waste and packing.....	100 24	
Real estate.....	85 69	
Barn expenses.....	61 76	
Cornish engine house.....	25 71	
Worthington pumping engine.....	4 20	
		<u>\$6,284 09</u>

## SOCKANOSSET RESERVOIR.

Watchman.....	\$138 00	
Sundries.....	37 70	
		<u>175 70</u>

## HOPE PUMPING STATION.

Engineers.....	\$516 67	
Firemen.....	440 80	
Care of grounds.....	234 91	
Sundries.....	140 16	
Lights.....	112 50	
Oil, waste and packing.....	27 46	
		<u>1,472.50</u>

## HOPE RESERVOIR.

Sundries.....	\$622 83	
Watchman.....	207 00	
		<u>829 83</u>

## PIPE LINE AND SERVICE STOPS.

Repairs.....	\$854 45	
Superintendence—salaries.....	650 00	
		<u>1,504 45</u>

## METER DEPARTMENT.

Water meters.....	\$4,915 89	
Setting and repairing meters.....	1,167 40	
		<u>6,083 29</u>
Amount carried forward.....		<u>\$16,349 86</u>

Amount brought forward..... \$12,329 86

**MISCELLANEOUS.**

Town of Cranston, tax.....	\$5,000 00
Clerks' and inspectors' salaries.....	3,006 27
Barn expenses.....	276 92
Prevention of defilement of the Pawtuxet.....	113 12
Analyses of water.....	96 90
Telephone lines.....	82 80
Sundries.....	81 70
Real estate at Pawtuxet.....	70 00
Horses, wagons, harnesses, etc.....	56 28
Public drinking fountains and troughs.....	51 63
Pipe yard, office expenses.....	26 25
Town of Lincoln, tax.....	16 80
	<hr/>
	10,077 76
	<hr/>
	\$26,427 62

The amount of expenditures from October 1 to December 31, 1890, inclusive, was . . . \$76,885 12

The total expenditures to December 31, 1890, inclusive, were . . . \$7,156,333 40

The *net* expenditure for construction and extension from October 1 to December 31, 1890, inclusive, was..... \$42,787 15

The *net* expenditure for construction and extension to December 31, 1890, inclusive, was..... \$5,573,497 28

The *net* expenditure for maintenance from October 1 to December 31, 1890, inclusive, was..... \$20,832 01

The *net* expenditure for maintenance to December 31, 1890, inclusive, was..... \$982,639 06

Bills deposited with the city treasurer for collection, from October 1 to December 31, 1890, inclusive, amounted to . . . \$43,516 50

As follows :

Water.....	\$37,309 79
Water meters.....	4,134 60
Setting and repairing water meters.....	1,104 70
Rent of real estate.....	250 52
Penalties.....	32 00
Permanently closing service stops.....	15 00
Labor and materials, laying service pipes, etc.....	448 38
Cast iron water pipes.....	221 51
	<hr/>
	\$43,516 50

During the quarter coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . \$50,187 26

As follows :

Water.....	\$43,889 30
Water meters.....	4,083 10
Setting and repairing water meters.....	1,234 49
Rent of real estate.....	263 02
Penalties.....	32 00
Permanently closing service stops.....	15 00
Labor and materials, laying service pipes, etc.....	448 84
Cast iron water pipes.....	221 51
	<hr/>
	\$50,187 26

### SEWERS.

During the quarter ending December 31, 1890, one hundred and seventy permits were issued to drain layers; one hundred and twenty for new work, and fifty for extension and repair of drains.

October 25th, the offer of Garvey Brothers to furnish arch and coping stone for the improved sewerage system, delivered upon the work at Field's Point, was accepted.

November 5th, the offer of Garvey Brothers to furnish granite for bell mouths and skew-backs for improved sewerage system, delivered at Field's Point, was accepted.

November 11th, the offer of the Nayatt Brick Company to furnish "Lammy," or "swelled" bricks, delivered on the shore at Field's Point, was accepted.

December 2d, the offer of Garvey Brothers to furnish stone for water weir and bell mouths, Section 1, improved sewerage system, was accepted.

October 9th, contracts for the construction of sewers, which were subsequently signed, were awarded as follows, namely :

The amounts given below are what are estimated will be paid the contractors for labor, and do include cost of inspection and materials, or rock excavation.]

## TO FREDERICK E. SHAW.

No. of resolution. Date of approval.

554. Sept 20, 1890. *Willow street, from  
Parade to Sycamore, .* \$892 00

## TO JOHN KEOGH.

532. Sept. 8, 1890. *Almy street, from  
Broadway to High, .* 1,316 00

549. " 20, " *Acorn street, from At-  
well's avenue to West  
Exchange street, .* 868 90

552. " " " *Joslin street, from At-  
well's avenue to Am-  
herst street, . . .* 1,887 50

553. " " " *Williams street, from  
summit to Benefit  
street, . . .* 468 00

607. Oct. 17. " *Sutton street, from  
summit to Atwell's av-  
enue, . . .* 679 80

November 24th, contracts for constructing sewers, which have since been signed, were awarded as follows, namely:

## TO FREDERICK E. SHAW.

No. of resolution. Date of approval.

667. Nov. 10, 1890. *Meador street, from  
Almy to Harkness, .* \$515 00

## TO JOHN KEOGH.

550. Sept. 20, 1890. *Broad street, from  
Stewart to Summer, .* 718 10

668. Nov. 10, " *Asia street, from Ar-  
thur avenue to America  
street, . . .* 497 90

678. " 17, " *Young Orchard av-  
enue, from Governor  
street to Ives street, .* 362 25

uring the quarter the construction of the following sew-  
as completed, namely :

Resolution. Date of approval.		Date of completion.
May 27,	1890, Parade street, from Willow to High,	Nov. 6, 1890.
June 21,	“ Arlington ave- nue, from Irving to Angell street,	Nov. 18, 1890.
July 8,	“ Atwell's avenue, from America street to Knight,	Oct. 10, 1890.
“ “	“ Harkness street, from High to Broadway,	Dec. 11, 1890.
“ “	“ Oak street, from summit to Pa- rade,	Nov. 18, 1890.
Sept. 8,	“ Almy street, from Broadway to High,	Nov. 4, 1890.
“ 20,	“ Acorn street, from Atwell's avenue to West Exchange street,	Dec. 2, 1890.
“ “	“ Williams street, from summit to Benefit street,	Nov. 10, 1890.
“ “	“ Willow street, from Parade to Sycamore,	Nov. 8, 1890.
Oct. 17,	“ Sutton street, from summit to Atwel's avenue,	Dec. 13, 1890.
Nov. 10,	“ Asia street, from Arthur avenue to America street,	Dec. 12, 1890.

At the close of the quarter work upon the following sewers was in progress, namely :

No. of Resolution. Date of Approval.

678. Nov. 17, 1890, *Young Orchard avenue, from Governor street to Ives street.*

*Disposal Division, Section 1, Improved Sewerage System.*

*Elmwood Division, Section 5, Improved Sewerage System.*

*Elmwood Division, Section 7, Improved Sewerage System.*

*Elmwood Division, Section 8, Improved Sewerage System.*

Work upon the following sewers, completing the work ordered by the city council, had not commenced December 31, 1890, viz ;

No. of resolution. Date of Approval.

395. June 21, 1890, *Harvard avenue, from Taylor street, westerly.*

431. July 8, " *Irving avenue, from Taber to Arlington.*

550. Sept. 20, " *Broad street, from Stewart to Summer.*

551. " " " *Dale street, from Atwell's avenue to West Exchange street.*

552. " " " *Joslin street, from Atwell's avenue to Amherst street.*

667. Nov. 10, " *Meader street, from Almy to Harkness.*

703. Dec. 1, " *Smith street, from State to Charles, and also to the river.*

715. " 6, " *Eddy street, from Tallman to Ship street.*

716. " " " *Vinton street, from Asia to Atwell's avenue.*

740. " 22, " *Manton avenue, from Amherst to Joslin street.*

751. " 29, " *Dodge and Cranston streets, from summit in Dodge street to Coddington street.*

SEWER MAINTENANCE DEPARTMENT.  
The following table shows the work performed by the department cleaning sewers and basins for the  
year 1890:

MONTHS.	OLD WORK.					NEW WORK.										
	OLD DRAINS.			SAND CATCHERS.		SEWERS.				CATCH BASINS.			TRAPPED.			
	Num-ber.	Length in Feet.	Deposit re-moved, cu. yds.	Num-ber.	Deposit re-moved, cu. yds.	Chutes, cu. yds.	Old ditches, cu. yds.	Num-ber.	Length in Feet.	Deposit re-moved, cu. yds.	Dead ends cleaned	Num-ber.	Deposit re-moved, cu. yds.	From hy-drant.	By rain or snow.	Total deposit removed, cubic yards.
January.....	1	200	31.1	3	3.55	5.3	144.4	14	4,125	Roots.	.....	274	287.8	233	42	460.16
February.....						4.5	.....	.....	.....	.....	.....	170	229.2	117	53	233.07
March.....						.....	.....	6	2,060	17.75	.....	201	343.1	67	134	360.76
April.....	1	200	66.75			1.50	.....	8	3,770	2.70	.....	884	945.50	639	195	1,016.45
May.....	1	.....	.....	3	14.75	3.25	.....	3	750	2.00	.....	624	916.00	485	139	936.60
June.....						.....	.....	.....	.....	.....	.....	738	829.00	714	24	829.00
July.....				6	68.30	.....	.....	13	1,900	6.22	.....	716	686.00	638	78	760.82
August.....						4.15	.....	.....	.....	.....	.....	668	719.90	562	106	724.05
September.....						.....	.....		1,900	3.00	.....	715	735.20	584	131	738.20
October.....	2	200	77.75			.....	.....	4	1,650	0.75	.....	622	775.00	449	173	863.50
November.....				9	63.60	.....	.....	12	5,450	4.40	.....	751	808.45	584	167	876.45
December.....				12	57.60	.....	.....	17	9,450	3.50	.....	432	326.70	386	46	387.80
Total.....	5	600	175.51	33	204.25	23.08	144.4	77	30,325	40.32		6,795	7,594.46	5,507	1,288	8,178.56

Bills approved on account of sewers from October 1 to December 31, 1890, inclusive, amounted to

For construction, . . . . . \$74,957 04

Charged as follows :

Materials.....	\$21,498 90
Testing cement.....	590 55
Sundries, improved sewerage system.....	166 93
Clerk's salary.....	33 00
Tools.....	6 71
Sewer in Acorn street, from Atwell's avenue to West Exchange street.....	1,034 27
Sewer in Almy street, from High to Broadway.....	1,475 82
Sewer in Arlington avenue, from Irving to Angell street.....	2,751 67
Sewer in Asla street, from Arthur avenue to America street.....	513 67
Sewer in Atwell's avenue, from America street to Knight.....	320 23
Sewer in Harkness street, from High to Broadway..	1,611 10
Sewer in Oak street, from summit to Parade.....	424 79
Sewer in Parade street, from Willow to High.....	1,131 72
Sewer in Sutton street, from summit to Atwell's avenue.....	714 98
Sewer in Williams street, from near summit to Benefit.....	423 67
Sewer in Willow street, from Parade to Sycamore...	904 06
Sewer in Young Orchard avenue, from Governor street to Ives.....	95 49
Sewer in Disposal Division, Section 1.....	14,463 25
Sewer in Elmwood Division, Section 5.....	13,496 99
Sewer in Elmwood Division, Section 7.....	222 34
Sewer in Elmwood Division, Section 8.....	12,537 81
Additional catch basins.....	9 09
Contract reservations.....	530 00
	<hr/>
	\$74,957 04

For maintenance, . . . . . \$5,485 98

Charged as follows :

Cleaning basins and sewers.....	\$2,446 53
Repairing basins and sewers.....	404 17
Cleaning and repairing old drains.....	739 73
Horses, wagons, harnesses, etc.....	464 93
Barn expenses.....	454 71
Salary—superintendent.....	350 00
Inspection of connections.....	300 01

Amount carried forward..... \$5,160 08



Amount brought forward.....	\$5,160 08
Tools.....	159 48
Cleaning private connections.....	73 11
Filling cisterns, etc.....	62 73
Sundries.....	30 58
	<u>\$5,485 98</u>

The <i>net</i> expenditure for construction of sewers to December 31, 1890, inclusive, was.....	\$2,173,711 15
The <i>net</i> expenditure for maintenance of sewers to December 31, 1890, inclusive, was.....	317,038 56

Bills deposited with the city treasurer for collection from  
October 1 to December 31, 1890, inclusive, amounted  
to . . . . . \$282 86.

As follows :

Cleaning private connections.....	\$129 36
Filling cisterns, etc.....	64 55
Manure from barn.....	48 00
Use of boiler, etc.....	5 25
Old manhole frame and cover.....	3 20
Catch basin stone.....	20 00
Private drain laid in street.....	12 50
	<u>\$282 86</u>

During the quarter, coupons from bills collected have  
been returned by the city treasurer, and receipted for,  
amounting to . . . . . \$226 03.

As follows :

Cleaning private connections.....	\$124 86
Manure from barn.....	48 00
Filling cisterns, etc.....	35 42
Use of boiler, etc.....	5 25
Private drain laid in street.....	12 50
	<u>\$226 03</u>

## HIGHWAYS.

Ten permits to open streets were issued during the  
quarter.

October 22d the offer of the Rhode Island Concrete Co.  
to fill the joints in the paving in Dorrance street, in front  
of City Hall, with pea gravel and asphaltic mixture, was  
accepted.

Bills approved on account of sewers . . . . . of *concr*  
 December 31, 1890, inclusive, amount' . . . . . *sum added*  
 For construction, . . . . . is *certified to*

Charged as follows :

Materials..... *Franklin Machine Co. l*  
 Testing cement..... *a carrier at the sto*  
 Sundries, improved sewerage system... *was accepted.*  
 Clerk's salary.....  
 Tools..... *of John Garvey to furnish*  
 Sewer in Acorn street, from At *curbing,*  
     West Exchange street..... *curbing, 10 foot radius,*  
 Sewer in Almy street, from H *curbing, 8 foot radius,*  
 Sewer in Arlington avenue, f *street.....*  
 Sewer in Asia street, from *four-inch cross-walk stone,*  
     ica street..... *green-inch cross-walk stone,*  
 Sewer in Atwell's aven *fourteen-inch cross-walk stone,*  
     Knight..... *contract subsequently executed.*  
 Sewer in Harkness st *the proposal of Dixon & Co. to furnish*  
 Sewer in Oak street *curbing,*  
 Sewer in Parade st *granite blocks,*  
 Sewer in Sutton *a contract subsequently executed.*  
     avenue..... *the proposal of A. G. Crumb to furnish*  
 Sewer in Will *of 24-inch cross-walk stone,*  
     est..... *of 18-inch cross-walk stone,*  
 Sewer in W *and a contract subsequently executed.*  
 Sewer in *the quarter the following streets have been*  
 Sewer *paired:*  
 Sewer *Atwell's avenue, from Aborn street to end of paving.*  
 Ad *Benefit street, from North Main to Wickenden.*  
 Co *Benefit street, from Benefit to Governor.*  
     *Broadway, from Aborn street to Barton.*  
     *Chalkstone avenue, at Pleasant Valley.*  
     *Charles street, from bridge to city line.*  
     *College street, from South Main to Prospect.*  
     *East avenue, from Cypress street to North.*  
     *East River street, from Waterman to South Angell.*  
     *Elmwood avenue, from Greenwich street to Roger Williams Park.*  
     *Peaser avenue, from Balch street to Howe.*  
     *Gano street, from Waterman to Angell.*  
     *George street, from Benefit to Governor.*  
     *Governor street, from Waterman to Pitman.*  
     *Manton avenue, from Julian street to Dyerville.*

in street.	
venue.	
bridge.	
pared of the cost of curbstones	
Commissioner and certified to the	
approval, as follows, viz. :	
Academy avenue to Pemberton street.....	\$506 51
from Douglas avenue to Branch avenue (por-	
1890).....	1,320 57
McKenna to West River.....	587 42
from Brown to Prospect.....	405 66
from Cranston to Brattle.....	1,008 21
from Brattle to Salem.....	924 18
West, east side, from Power to Williams.....	158 78
Total.....	\$4,911 33

During the quarter the following work was completed :

#### SIDEWALKS CURBED AND GUTTERS PAVED.

as of order.

- h 20, 1890. *Penn street, from Almy to Ridge.*  
 “ “ *Washburn street, from Common to Orms.*  
 “ “ *Gladstone street, from Broad to Baxter.*  
 17, “ *Hill street, from Howard to Perry.*  
 15, “ *Arthur avenue, from Kenyon street to Asia.*  
 4, “ *Adelaide avenue, between Melrose street and Elmwood avenue.*

#### TO TAKE POSSESSION OF.

- 26, 1889. *Dexter street, from Cromwell to Potter's avenue.*

#### TO BE BROUGHT TO GRADE.

resolution. Date of approval.

- June 14, 1889. *Lot on Jackson avenue belonging to Rachel Paine.*

November 18th a statement of the cost of concreting sidewalk on Magee street with ten per centum added to cover cost of assessing and collecting, was certified to the Assessors of Taxes.

November 18th an offer of the Franklin Machine Co. to construct complete, except belts, a carrier at the stone crusher building, Highway yard, was accepted.

December 3d the proposal of John Garvey to furnish

30,000 lineal feet of straight curbing,  
1,000 lineal feet of circular curbing, 10 foot radius,  
3,000 lineal feet of circular curbing, 8 foot radius,  
200 2-foot corners,  
1,000 lineal feet of twenty-four-inch cross-walk stone,  
2,000 lineal feet of eighteen-inch cross-walk stone,  
8,000 lineal feet of fourteen-inch cross-walk stone,

was accepted and a contract subsequently executed.

December 3d the proposal of Dixon & Co. to furnish

5,000 lineal feet straight curbing,  
5,000 square yards granite blocks,

was accepted and a contract subsequently executed.

December 3d, the proposal of A. G. Crumb to furnish

1,000 lineal feet of 24-inch cross-walk stone,  
1,000 lineal feet of 18-inch cross-walk stone,

was accepted and a contract subsequently executed.

During the quarter the following streets have been repaired :

Atwell's avenue, from Aborn street to end of paving.  
Benefit street, from North Main to Wickenden.  
Benevolent street, from Benefit to Governor.  
Broadway, from Aborn street to Barton.  
Chalkstone avenue, at Pleasant Valley.  
Charles street, from bridge to city line.  
College street, from South Main to Prospect.  
East avenue, from Cypress street to North.  
East River street, from Waterman to South Angell.  
Elmwood avenue, from Greenwich street to Roger, Williams Park.  
Fenner avenue, from Balch street to Howe.  
Gano street, from Waterman to Angell.  
George street, from Benefit to Governor.  
Governor street, from Waterman to Pitman.  
Manton avenue, from Julian street to Dyerville.

Mason street, from Aborn to Cove.  
 North street, from Butler avenue to North Main street.  
 Park street, from Beach to Promenade.  
 Pitman street, from East River to Governor.  
 Smith street, from Elmhurst to Oakland avenue.  
 Valley street, from Pinckney to Hemlock.  
 Waterman street, from Prospect to Red bridge.

Statements have been prepared of the cost of curbstones set, ascertained by the commissioner and certified to the board of aldermen for approval, as follows, viz. :

Pomona avenue, from Academy avenue to Pemberton street.....	\$506 51
Vanderwater street, from Douglas avenue to Branch avenue (portion done during 1890).....	1,320 57
Darling street, from McKenna to West River.....	587 42
Halsey street, from Brown to Prospect.....	405 66
Dahlia street, from Cranston to Brattle.....	1,008 21
Dahlia street, from Brattle to Salem.....	924 18
Thayer street, east side, from Power to Williams.....	158 78
Total.....	\$4,911 33

During the quarter the following work was completed :

#### SIDEWALKS CURBED AND GUTTERS PAVED.

Date of order.

March 20, 1890. *Penn street, from Almy to Ridge.*  
 “ “ “ *Washburn street, from Common to Orms.*  
 “ “ “ *Gladstone street, from Broad to Baxter.*  
 April 17, “ *Hill street, from Howard to Perry.*  
 May 15, “ *Arthur avenue, from Kenyon street to Asia.*  
 Sept. 4, “ *Adelaide avenue, between Melrose street and Elmwood avenue.*

#### TO TAKE POSSESSION OF.

Dec. 26, 1889. *Dexter street, from Cromwell to Potter's avenue.*

#### TO BE BROUGHT TO GRADE.

No. of resolution. Date of approval.

285. June 14, 1889. *Lot on Jackson avenue belonging to Rachel Paine.*

No. of resolution. Date of approval.

Feb. 27, 1890. *Dexter street, from Cromwell to Potter's avenue.*

June 5, " *Manton avenue, from end of car track at Dyerville to Chalkstone avenue.*

**TO BE BUILT.**

274. June 13, 1889. *Smith street, from Ruggles to the city line.*

**TO BE PAVED WITH GRANITE BLOCKS.**

No. of resolution. Date of approval.

51. Feb. 7, 1889. *Worcester street, from Eddy to Cove.*

567. Sept. 20, 1890, *Dorrance street, between Fulton and Washington, east of railroad track.*

**TO BE REPAIRED AT EXPENSE OF CITY.**

Date of order.

April 3, 1890, *Promenade street, from Holden to Senter.*

**TO BE BROUGHT TO GRADE.**

April 17, 1890, *Oregon street, from Fillmore to Bova.*

**TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.**

Sept. 4, 1890, *Knight street, from Broadway to Atwell's avenue.*

**TO BE REMOVED.**

No. of resolution. Date of approval.

548. Sept. 20, 1890, *Curbing on Cranston street at entrance to Waldo street.*

**GUTTERS TO BE CONCRETED.**

558. Oct. 13, 1889, *Waterman street.*

**SIDEWALK TO BE CONCRETED.**

Date of order.

Oct. 2, 1890, *Magee street, corner of George.*

The following work was in progress December 31, 1890,  
viz. :

#### SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

- Oct. 20, 1887, *West Exchange street, from Cove to Atwell's avenue*:—nearly completed.
- Oct. 18, 1888, *Jackson avenue, from Potter's avenue to Beckwith street*:—curbing set, gutters paved and roadway nearly graveled.
- Dec. 20, " *Franklin avenue, from Chalkstone avenue to Vale street*:—curbing set and gutters paved.
- March 20, 1889, *Hannah street, from Amherst to Amsterdam*:—curbing set and gutters paved.
- April 17, " *Hidden street, from Prospect to Brown*:—finished except rolling.
- " " " *Hyatt street, from Amherst to Kossuth*:—work commenced.

#### TO TAKE POSSESSION OF.

- Oct. 31, 1889, *King street, from Manton avenue to Sheridan*:—work being done.

#### TO BE REBUILT.

No. of resolution. Date of approval.

547. Sept. 20, 1890, *Douglas avenue, from Orms street to Vale*:—work more than one-half done.

#### TO BE BROUGHT TO GRADE.

Date of order.

- July 2, 1890, *Slater ave. from Irving to President*:—grading not completed between Lloyd and President avenues.
- Oct. 16, 1890, *King street, from Manton avenue to Sheridan street*:—in process.

## TO BE MACADAMIZED.

Date of order.

Oct. 2, 1890, *Academy avenue, from Atwell's to Chalkstone:—about two-thirds done.*

## TO BE BUILT.

No. of resolution. Date of approval.

432. Sept. 10, 1887, *West Exchange street, from Atwell's avenue to Cove street; also sewer in said street:—work nearly completed.*

Date of order.

July 28, 1890, *Melrose street, from Potter's avenue to Adelaide:—finished except concreting gutters.*

No. of resolution. Date of approval.

655. Oct. 28, 1890, *Kinsley avenue, from Gaspee street to Hemlock:—in process.*

## CURBSTONES TO BE RESET.

Date of order.

Mar. 8, 1890, *John street, from Benefit to Governor:—completed from Benefit to Thayer.*

The following work, ordered by the board of aldermen and city council, had not commenced December 31, 1890, namely :

## SIDEWALKS TO BE CURBED AND GUTTERS PAVED.

Date of order.

June 20, 1889, *Butler avenue, from Blackstone park to President avenue.*

Oct. 17, “ *Pettis street, from North Main to Moshassuck river.*

Dec. 19, “ *Joslin street, from Atwell's avenue to Manton.*

Mar. 20, “ *Plain street, from Potter's avenue to Pavilion.*

April 17, “ *Beaufort street, from Academy avenue to Mount Pleasant.*

April 17, 1890, *La Vaughn street, from Atwell's avenue to Amherst street.*



## Date of order.

April 17, 1890,		<i>Pemberton street, from Kendrick to Dover.</i>
" "	"	<i>Young avenue, from Smith street to Chalkstone avenue.</i>
May 15,	"	<i>Chalkstone avenue, from Smith street to Ruggles.</i>
" "	"	<i>Glenham street, from Broad to Prairie avenue.</i>
" "	"	<i>Swan street, from Ocean to Plain.</i>
" "	"	<i>Taylor street, from Public to Glenham.</i>
June 19,	"	<i>Dudley street, from Prairie avenue to Plain street.</i>
" "	"	<i>McKenna street, from Cross to Whelden.</i>
Sept. 18,	"	<i>Broad street, east side, from near Chester avenue to Public street.</i>
" "	"	<i>Gallup street, from Prairie avenue to Ocean street.</i>
" "	"	<i>Gaspee street, from Smith street, southerly to second angle in said street.</i>
" "	"	<i>Redwing street, from Greenwich to Bucklin.</i>
Oct. 16,	"	<i>Chalkstone avenue, from River avenue to Ruggles street.</i>
" "	"	<i>Jessamine street, from Cranston to Salem.</i>
" "	"	<i>Oxford street, from Harriet to Broad.</i>
" "	"	<i>Sullivan street, from Greenwich to Hamilton.</i>
Nov. 20,	"	<i>Atwell's avenue, from Hannah street to Manton avenue.</i>
" "	"	<i>Bucklin street, from Carter to Earl.</i>
" "	"	<i>Chalkstone avenue, from Manton bridge to Fruit Hill avenue.</i>
" "	"	<i>Chalkstone avenue, from Mount Pleasant to Academy.</i>

Date of order.			
Nov.	20,	1890,	<i>Chester avenue, from Prairie to Milk street.</i>
"	"	"	<i>River avenue, from Chalkstone to Valley street.</i>
"	"	"	<i>Salisbury street, from Plain to Ocean.</i>
"	"	"	<i>Zone street, from Chalkstone avenue to Orms street.</i>
Dec.	18,	"	<i>Douglas avenue, from Admiral street to Branch avenue.</i>
"	"	"	<i>Ford street, from end of curb to Dexter.</i>
"	"	"	<i>Peace street, from Broad to Greenwich.</i>
"	"	"	<i>Plenty street, from Broad to Greenwich.</i>
"	"	"	<i>Taylor street, from Comstock avenue to Chester avenue.</i>
"	"	"	<i>Madison street, from land of N. Y. P. &amp; B. R. R. Co. on the east side, and on the west side to within 190 feet of the land of said company.</i>

**GUTTERS TO BE PLOUGHED OUT AND ROADWAY GRAVELED.**

Date of order.			
Nov.	22,	1888,	<i>Dudley street, from Prairie avenue to Plain street.</i>

**TO BE PAVED WITH GRANITE BLOCKS.**

No. of resolution.	Date of approval.			
269.	May	21,	1889,	<i>Greenwich street, from near Sprague to Public.</i>
584.	Sept.	20,	1890,	<i>Atwell's avenue, from Academy to Harris.</i>
735.	Dec.	22,	"	<i>Friendship street, from Beacon avenue to Summer street.</i>

**ROADWAY TO BE MACADAMIZED.**

Date of order.			
May	7,	1890,	<i>Public street, Eddy to Prairie avenue.</i>

No. of resolution. Date of approval.

568. Sept. 20, 1890, *Roanoke street, from Pemberton to Academy avenue.*

#### TO BE BROUGHT TO GRADE.

511. Oct. 28, 1884, *Bucklin street, from Carter to Earl.*  
 April 13, 1889, *Eddy street, from railroad bridge to Broad street.*  
 July 2, 1890, *Gaspee street, from Smith street southerly to angle in said street.*  
 Sept. 18, " *River avenue, from Douglas to Admiral street.*  
 Nov. 20, " *Chalkstone avenue, from Mount Pleasant to Winthrop.*  
 " " " *Young Orchard avenue, from Governor street to Ives.*  
 Dec. 4, " *Knowles street, from Cypress to Pleasant.*

#### TO TAKE POSSESSION OF AND REMOVE OBSTRUCTIONS.

Date of order.

- July 21, 1890, *Academy avenue, from Chalkstone avenue northerly.*  
 Oct. 16, " *Peace street, from Broad to Greenwich.*  
 " " " *Plenty street, from Broad to Greenwich.*  
 " " " *Pettis street, from North Main to Shove.*

#### TO BE REBUILT.

No. of resolution. Date of approval.

530. Sept. 8, 1890, *Sherburne street, from Ocean to Eddy.*  
 569. " 20, " *Dexter street, from High to Cranston.*  
 570. " " " *Messer street, from High to Cranston.*  
 571. " " " *Sycamore street, from High to Chapin avenue.*

#### DISPOSAL OF SURFACE WATER.

749. Dec. 29, 1890, *Branch avenue, for Allen's Print Works.*

## TO BE REPAIRED.

No. of resolution. Date of approval.

585. Sept. 20, 1890, *Eddy street, from Westminster to Broad.*

## SIDEWALK TO BE REPAIRED.

606. Oct. 17, 1890, *Putnam street, corner Atwell's avenue.*

## SIDEWALKS TO BE CONCRETED.

705. Dec. 4, 1890, *Mill street, from North Main street east side about 150 feet.*

737. " 22, " *South Main street, from Crawford to Transit.*

## TO BE REMOVED.

657. Oct. 30, 1890, *Curbing on Messer street, west side, at entrance to Willow.*

Dec. 4, " *Curbing on Valley street, opposite Felix street.*

## IMPEDIMENTS TO BE REMOVED AND SURFACE WATER TAKEN CARE OF.

Dec. 18, 1890, *Chapin avenue, near west side of Messer street.*

Bills approved on account of highways from October 1 to December 31, 1890, inclusive, amounted to :

Regular appropriation.....	\$66,350 47	
Special appropriations.....	35,336 24	
		<u>\$101,686 71</u>

## Classified as follows :

Repairs on unpaved streets.....	\$15,758 42
Stone—paving and crosswalk.....	11,200 50
Crushed stone, material and labor.....	9,915 90
Cleaning streets.....	9,845 40
Screening gravel.....	5,378 47
Repairs on paved streets.....	2,760 99
Barn expenses.....	1,915 33
Salaries, superintendent and clerks.....	1,773 75
Tools, implements, etc.....	1,362 34
Blacksmith and wheelwright shop.....	1,176 03
Amount carried forward.....	<u>\$61,087 13</u>

Amount brought forward.....	\$61,087 13	
Removing snow and ice.....	1,072 03	
Labor on materials.....	558 16	
Repairs on stone crushers.....	534 43	
Horses, wagons, harnesses, etc.....	525 32	
Steam rollers—repairs and supplies.....	365 69	
Watchman at city yard.....	340 20	
Sundries.....	160 54	
Fencing streets.....	40 22	
Office expenses—city yard.....	25 34	
Telephone lines.....	3 85	
		<b>\$64,712 91</b>

**NEW WORK—BUILDING AND RE-BUILDING STREETS, ETC.,  
SIDEWALKS CURBED AND GUTTERS PAVED.**

<i>Adelaide avenue</i> , from Niagara street to Melrose....	\$1,373 94	
<i>Adelaide avenue</i> , from extension of Melrose street to near Elmwood avenue.....	613 74	
<i>Arthur avenue</i> , from Kenyon street to Asia.....	781 22	
<i>Dover street</i> , from Carleton to Mount Pleasant avenue.....	121 44	
<i>Franklin avenue</i> , from Chalkstone to Vale street....	1,009 16	
<i>Gladstone street</i> , from Broad to Baxter.....	472 30	
<i>Hannah street</i> , from Amherst to Amsterdam.....	1,249 70	
<i>Hidden street</i> , from Prospect to Brown.....	1,248 79	
<i>Hill street</i> , from Howard to Perry.....	547 21	
<i>Hyat street</i> , from Amherst to Kossuth.....	39 45	
<i>Jackson avenue</i> , from Potter's avenue to Beckwith street.....	2,630 86	
<i>Penn street</i> , from Almy to Ridge.....	697 13	
<i>Plain street</i> , from Potter's avenue to Pavillon.....	154 40	
<i>South Angell street</i> , from end of 'curb to East River street.....	306 97	
<i>Thayer street</i> , east side, from Power to Williams....	52 88	
<i>Transit street</i> , from Ives to Gano.....	237 89	
<i>Washburn street</i> , from Common to Orms.....	675 96	
		<b>12,213 04</b>

**TO BE BROUGHT TO GRADE.**

<i>Jackson avenue</i> , lot belonging to Rachel Payne.....	\$129 75	
<i>Manton avenue</i> , from end of horse car track at Dyer- ville to Chalkstone avenue.....	2,293 49	
<i>Oregon street</i> , from Fillmore to Borva.....	301 75	
		<b>2,724 99</b>

**TAKE POSSESSION OF.**

<i>Dexter street</i> , from Cromwell to Potter's avenue....	\$2,694 60	
<i>Knight street</i> , from Broadway to Atwell's avenue..	499 70	
		<b>3,194 30</b>
Amount carried forward.....		<b>\$82,945 24</b>

Amount brought forward.....	\$82,845 24
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## PAVE WITH GRANITE BLOCKS.

<i>Dorrance street</i> , from Fulton to Washington, east of railroad tracks.....	\$4,534 49	
<i>Worcester street</i> , from Cove to Eddy.....	189 94	
		4,724 43

## RESET OLD CURB AND MACADAMIZE.

<i>Power street</i> , from Carrington lane to Governor street	\$168 46	
<i>Thayer street</i> , from Transit to Williams.....	21 34	
<i>Williams street</i> , from South Main to Governor.....	224 82	
		414 62

## TO BE BUILT.

<i>Kinsley avenue</i> , from Gaspee street to Hemlock.....	\$1,023 60	
<i>Melrose street</i> , from Potter's avenue to Adelaide.....	4,109 29	
<i>Smith street</i> , from Ruggles street to city line.....	1,787 93	
		6,920 82

## CONCRETE GUTTERS.

<i>Angell street</i> .....	\$303 89	
<i>Waterman street</i> .....	1,472 03	
		1,775 92

## TO REBUILD.

<i>Douglas avenue</i> , from Orms street to Vale.....	4,395 21
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## TO BE REPAIRED.

<i>Brighton street</i> , from Knight to Courtland.....	38 70
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## TO MACADAMIZE.

<i>Academy avenue</i> , from Atwell's to Chalkstone.....	477 57
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## RAISE BUILDINGS.

<i>West Exchange street</i> , south side.....	3 44
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## CURBING REMOVED, ETC.

<i>Waldo street</i> , westerly side of Cranston.....	90 76
	\$101,686 71

Bills deposited with the city treasurer for collection from October 1 to December 31, 1890, inclusive, amounted to . . . . \$1,378 51

As follows :

Labor and materials.....	\$1,091 96
Street sweepings.....	216 78
Manure from barn.....	52 50
Old cart.....	12 00
Chopping blocks.....	5 25
	<hr/>
	\$1,378 51

During the quarter coupons from bills collected have been returned by the city treasurer and receipted for, amounting to . . . . \$5,180 23

As follows :

Union Railroad Company, granite blocks, etc.....	\$4,104 57
Labor and materials.....	789 13
Street sweepings.....	216 78
Manure from barn.....	52 50
Old cart.....	12 00
Chopping blocks.....	5 25
	<hr/>
	\$5,180 23

## SIDEWALKS AND CURBING.

The expenditures on account of sidewalks and curbing, from October 1 to December 31, 1890, inclusive, amounted to . . . . \$5,273 31

As follows :

Granite curbing.....	\$5,241 57
Concreting sidewalks.....	31 74
	<hr/>
	\$5,273 31

Curbing bills deposited with the city treasurer for collection, from October 1 to December 31, 1890, inclusive, amounted to . . . . \$781 62

During the quarter, coupons from curbing bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . \$834 93

## CITY ENGINEER.

Bills approved on account of city engineer's department, from October 1 to December 31, 1890, inclusive, amounted to . . . \$12,993 05

## Charged as follows :

Salary, city engineer.....	\$1,250 00
Salaries of assistants.....	10,239 07
Salaries of clerks.....	737 49
Supplies, drawing materials, etc.....	355 39
Horse-car tickets, etc.....	215 80
City engineer, for horse-hire.....	150 00
Instruments and repairs.....	29 07
Horse-hire, barn expenses, etc.....	9 90
Meteorological instruments and repairs.....	3 50
Sundries.....	2 83
	<hr/>
	\$12,993 05

## BRIDGES.

November 8th, the offer of J. Madden & Co., to do painting at the Washington bridge, near India Point, was accepted.

November 8th, the offer of B. W. Peck & Son to do painting at Point street, Crawford street, Exchange and Washington bridges, over Providence river, was accepted.

Bills approved on account of bridges, from October 1 to December 31, 1890, inclusive, amounted to . . . \$7,045 27

## Charged as follows :

Barn expenses.....	\$48 54
Building at city yard.....	5 50
Central or Red bridge.....	41 34
Charles street bridge.....	1 20
Crawford street bridge.....	356 70
Delaine street bridge (East span).....	10 35
Eagle street bridge.....	2 56
Exchange bridge.....	255 82
	<hr/>
Amount carried forward.....	\$722 01



Amount brought forward.....	\$722 01
Geneva bridge.....	1 90
Horses, wagons, harnesses, etc.....	94 59
Lumber, hardware, etc.....	72 89
Manton bridge.....	525 55
Nash lane bridge.....	1,345 54
Park street bridge.....	2 05
Point street bridge.....	621 16
Randall street bridge.....	472 51
Rent of keeper's house, Washington bridge.....	30 00
Salaries—Point street bridge.....	1,023 00
Salaries—Washington bridge.....	527 31
Salaries—Red or Central bridge.....	469 50
Smith street bridge.....	225 94
Sundries.....	111 38
Tar bridge (Manton avenue).....	2 18
Tools.....	116 03
Veazie street bridge.....	24 85
Wanskuck bridge.....	1 43
Washington bridge, near India Point.....	650 88
Washington bridge, over Providence river.....	4 57
	<hr/>
	\$7,045 27

Bills deposited with the city treasurer for collection, from October 1 to December 31, 1890, inclusive, amounted to . . . . . \$169 95

As follows :

Town of Johnston, one-half cost of Manton Village bridge.....	\$167 35
Old lumber.....	2 60
	<hr/>
	\$169 95

During the quarter, coupons from bills collected have been returned by the city treasurer, and receipted for, amounting to . . . . . \$169 95

As follows :

Town of Johnston, one-half cost of Manton Village bridge.....	\$167 35
Old lumber.....	2 60
	<hr/>
	\$169 95

JOHN A. COLEMAN,  
*Commissioner.*













